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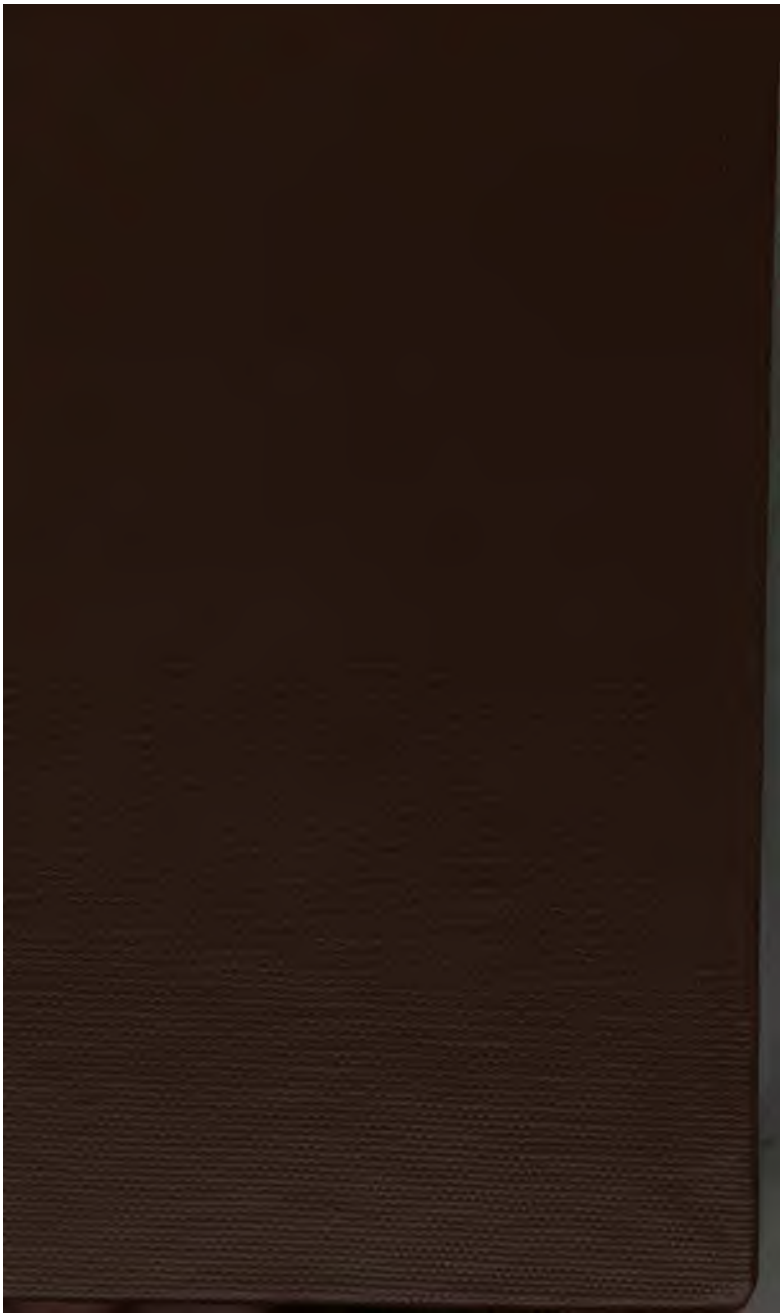

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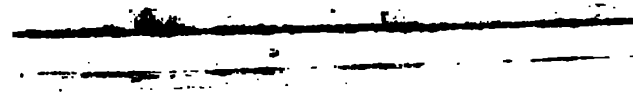

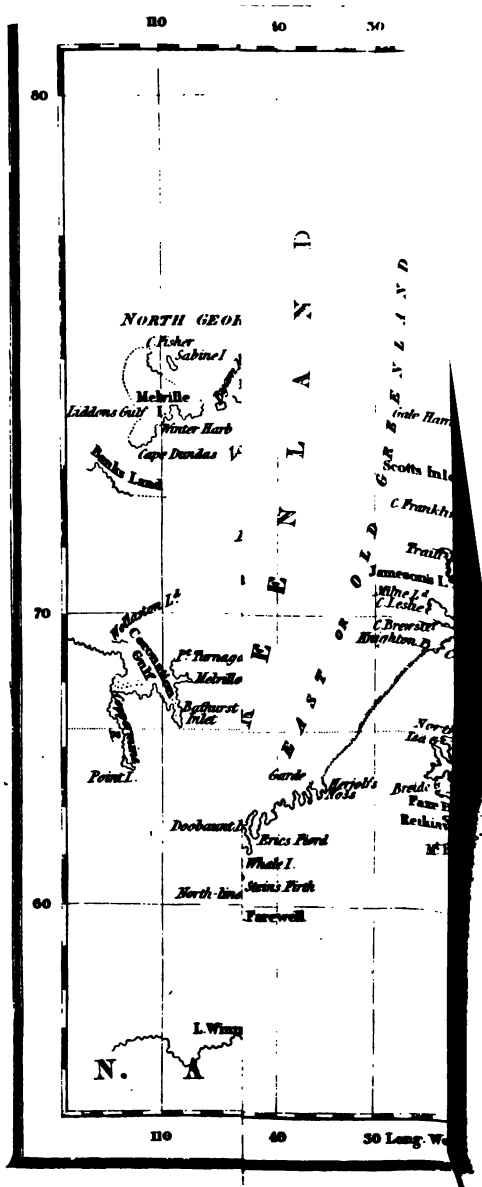
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Y AND ADVENTURE

IN THE

EAS AND REGIONS.

OLIVER & BOYD, EDINBURGH.

NARRATIVE

OF

DISCOVERY AND ADVENTURE

IN THE

POLAR SEAS AND REGIONS:

WITH ILLUSTRATIONS OF THEIR

CLIMATE, GEOLOGY, AND NATURAL HISTORY;

AND AN ACCOUNT OF

THE WHALE-FISHERY.

BY SIR JOHN LESLIE, K.R.G.,
Professor of Natural Philosophy in the University of Edinburgh, and Corresponding Member of the Royal Institute of France;

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HUGH MURRAY, ESQ., F.R.S.E.

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DISCOVERY AND ADVENTURE

IN THE

)LAR SEAS AND REGIONS.

OLIVER & BOYD, EDINBURGH.

PREFACE.

THE design of the present work is to exhibit a complete and connected view of the successive voyages made to the Arctic Regions. In those climates Nature is marked by the most stupendous features, and the forms which she assumes differ from her appearances in our milder latitudes almost as widely as if they belonged to another planet. There the scenery, though sombre and dreary, yet abounds in striking, sublime, and even beautiful objects. The career of the navigators, who at various times have traversed the northern seas, amid tempest, darkness, and mountains of floating ice, presents such frightful perils and disasters, and has given rise to so many extraordinary displays of intrepidity and heroism, as cannot fail to render most interesting the story of their several adventures. When we consider, also, that in this field of discovery England laid the foundation of her maritime pre-eminence, and that the men who have earned in it the greatest glory have been chiefly British, it will be admitted that the History of Northern Navigation must have a peculiar charm for the English reader.

The narrative of these Voyages has been carefully drawn from the most authentic sources by Mr. Murray, whose learned labours in a similar field of research have been already received by the public with no common approbation. The sketch of the Natural History of the Polar Regions, and the account of the Whale-Fishery, have been communicated by the same author; whilst some of the most distinguished men of science in Scotland have lent their aid to illustrate that wonderful order of nature which prevails within the Arctic Circle. Professor Leslie commences the volume with a full examination of the Climate and its Phenomena,—subjects so prominent in those high latitudes, that, without a preliminary knowledge of them, the progress of discovery would be but imperfectly understood. A general Survey of all that is known relative to the Geological Structure of the same interesting regions, is given by Professor Jameson.

The chapter on Natural History, though it treats the subject rather in a popular than in a scientific manner, has received the careful revision of a distinguished naturalist.

The Whale-Fishery forms a striking feature in Arctic adventure. Of its daring operations, and its various perils,—as they occur in the depth of the Polar Seas,—the description here introduced may be more acceptable, as it is presumed to be the one hitherto attempted within a moderate com-

It might, perhaps, be expected that this work should embrace an account of the successive expeditions performed by land and sea, to ascertain the northern boundaries of America and Asia; but this was obviously unattainable within the limits of the present undertaking. Had it been attempted, an interesting division of the subject must have been dismissed with a brevity little suited to its importance. These enterprises therefore will be described in a separate volume, exclusively devoted to the Progress of Discovery and Adventure on the more northern Coasts of America.

EDINBURGH, 22*d September* 1830.

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TO THE SECOND EDITION.

So short a period has elapsed since the publication of the first edition of this work that it was hardly to be expected we should have had any additional information to communicate respecting the Polar Seas. Yet it has so happened that, during this interval, tidings have arrived of such a nature as to form a striking though gloomy era in the annals of northern adventure. The fleets sent out last season to Davis' Strait encountered a degree of loss and disaster scarcely paralleled in the records of British navigation. On this painful but interesting subject we have felt it our duty to collect the fullest possible information. With this view, application was made to several respectable and intelligent gentlemen connected with the different fishing-ports, to whom on a former occasion we were deeply indebted. From them, in reply to our queries, we have received ample and valuable communications; and have also procured the journals of several individuals who were eye-witnesses to those disastrous scenes. From these materials there has been drawn up a general narrative of the events of this memorable year, which, we flatter ourselves, will be found more complete and satisfactory than any hitherto given to the public.

We have also been enabled, from original sources, to give a more precise account than formerly of the objects contemplated by Captain Ross in his present expedition, and even to include a chart of his intended route, from a sketch drawn by himself. To the Chapter on North-Eastern Voyages is now added, a notice of some recent expeditions sent out by the Russian government, with the view of completing the exploration of Nova Zembla.

EDINBURGH, 15*th February* 1831.

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POLAR
SEAS AND REGIONS.

CHAPTER I.

The Climate of the Polar Regions.

neral View of the Subject—Light thrown on it by Voyages of Discovery—Various Opinions and Observations discussed—Distribution of Heat over the Surface of the Globe—Currents in the Atmosphere—Freezing of the Arctic Sea—Phenomena of the Seasons in the Polar Regions—Formation of Icebergs—Changes in the Aspect of the Polar Seas—Supposed Alterations in the Climate of Europe—State of the Ice in the Polar Seas—Situation of the Ancient Colonies in Greenland.

THE climate and seasons within the Arctic circle exhibit most peculiar and striking features, which modify in a singular manner the whole aspect of nature. An investigation of those phenomena seems therefore necessary for enabling the reader to comprehend the narrative, and to follow through such icy regions the paths of the daring navigators. And the more fully to elucidate the subject, it will be proper to give some explication of the principles that regulate generally the distribution of heat over the surface of our globe.

Many of the facts relative to the Polar climate have been collected in the course of the bold and

arduous attempts made to penetrate to India across the northern seas. Projects of this kind, after being long suspended, were in 1818 renewed, and embraced with excessive ardour by the English government. For two or three years previous, the captains of ships employed in the northern whale fishery had generally concurred in representing the Arctic Sea as of a sudden become almost open and accessible to the adventurous navigator. By the more speculative relaters, it had been supposed that the vast icy barrier, which for many ages obstructed those forlorn regions, was at last, by some revolution of our globe, broken up and dispersed. The project of finding a north-west passage to Asia,—a project so often attempted and so long abandoned,—was in consequence again revived; and the more daring scheme of penetrating to the Pole itself had likewise been seriously proposed. Of the complete success of either plan, the hopes of sober thinkers were indeed extremely slender; yet the prospect held forth seemed to be more inviting, on the whole, than at any former period when such bold undertakings had been attempted. The discovery of a north-west passage, were it ever attainable, could hardly, it is true, be of any real benefit to our commerce; since, in such high latitudes, where only it must be sought for, it would at all times be very precarious, and liable to interruption from the prevalence of ice. The scheme of actually reaching that northern point on the surface of our globe, which terminates its axis of rotation, however interesting in a philosophical view, can only be regarded as an object of pure curiosity, and not likely to lead to any useful or practical results. Yet was it befitting the character of a great

on to embrace every chance of improv-
cal knowledge, and of extending the
al science.
and memoirs which contain the latest
e state of the northern seas, either sug-
terprise then pursued, or were brought
isequence of its adoption. The Honour-
arrington, a man of learning and some
ibraced with ardour the opinion of the
approaching to the Pole. In successive
unicated to the Royal Society of Lon-
dy condensed the information furnished
oyagers, but exhibited the results of the
eries relating to the same object, which
lated among persons engaged in the
iery. He thence proved, that, in certain
asons, the Arctic Seas are for several
i, that intrepid navigators might safely
very high latitude. In compliance with
representations, the Admiralty in 1773
iptain Phipps to explore those regions;
iander was unsuccessful in the attempt,
ed only the latitude of 80½ degrees,
) got surrounded by a body of ice near
and escaped with extreme difficulty,
r of the whalers had in that summer
ther. Mr Barrington did not how-
; and, following out his views, he in-
airne and Dr Higgins to make experi-
congelation of sea-water. The various
)llected in a small volume, to which
ifoy subjoined an appendix, containing
nade to his queries by Russian hunters
:ustomed to spend the whole year in

Spitzbergen), relative to the probability of travelling from that island to the Pole during winter, in sledges drawn by rein-deer. The reports of these hardy men were sufficiently discouraging. They pictured the winter at Spitzbergen as not only severe but extremely boisterous, the snow falling to the depth of three or five feet, and drifting so much along the shores by the violence of the winds as often to block up all communication. The danger of being surprised and overwhelmed by clouds of snow, raised in sudden gusts, was so great, that they never ventured to undertake any long journeys over the ice. Nor did they think it at all practicable to have loaded sledges dragged over a surface so rough and hilly by the force of rein-deer or dogs.

The speculations of Mr Scoresby had more than ordinary claims to attention, as exhibiting the conclusions of a most diligent, accurate, and scientific observer. Trained from infancy to the navigation of the frozen seas under the direction of his father, a most enterprising and successful leader, he conjoined experience with ingenuity and judgment. For several years, during the intervals of his Greenland voyages, he prosecuted a regular course of study at the University of Edinburgh, which enriched his mind with liberal attainments, and gave a new impulse to his native ingenuity and ardour. It was exceedingly to be regretted, that any jealousies or official punctilios should have prevented government from intrusting the principal command of the Polar expedition to him who not only proposed it originally, but whose talents and science, joined to his activity, perseverance, and enthusiasm, afforded assuredly the best promise of its ultimate success.

ede, a benevolent enthusiast, formed a plan
ıg the natives of Greenland from the errors
n. After various ineffectual attempts, he at
ed by subscription, in Denmark, the sum
with which he purchased a vessel, and
family and forty settlers to Baal's River,
degree of north latitude, where he landed
of July, 1721. He was afterwards ap-
ssionary, with a small salary, by the Da-
nment, which occasionally granted some
colony. During his stay, which lasted
e laboured with great zeal in his vocation.
he year before his death, he printed his
n of Greenland, in the Danish language,
gen. A translation of that work, much
nd enlarged, with useful additions by the
ains valuable information, tinged with a
n of credulity.
narkable that two centuries of extreme
uld have added so very little to our know-
e Arctic regions. The relations of the
igators to those parts possess an interest
not been yet eclipsed. The voyage of
om Hamburg to Spitzbergen may be cited
most instructive. But the best and com-
k on the subject of the northern fisheries,
in three volumes octavo, translated from
language into French by Bernard de
published at Paris in 1801, under the
ire des Pêches, des Découvertes, et des
ens des Hollandais dans les Mers du

tic expedition, which in 1818 attracted
ion of the public, proposed two distinct

objects,—to advance towards the Pole,—and to explore a north-west passage to China. These were no doubt splendid schemes; but, in order to form a right estimate of the plan and some anticipation of its probable results, it was necessary to proceed with caution, and employ the lights of science to guide our steps. The facts alleged, respecting the vast islands or continents of ice recently separated and dispersed from the Arctic regions, gave occasion to much loose reasoning, to wild and random conjectures, and visionary declamation. Glowing anticipations were confidently formed of the future amelioration of climate, which would scarcely be hazarded even in the dreams of romance. Every person possessing a slight tincture of physical science conceived himself qualified to speculate concerning the phenomena of weather, in which he feels a deep interest; and hence a very flimsy and spurious kind of philosophy, however trifling or despicable it may appear in the eyes of the few who are accustomed to think more profoundly, gained currency among certain classes of men, and engendered no small share of conceit. Meteorology is a complex science, depending on so many subordinate principles that require the union of accurate theory with a range of nice and various observations as to have advanced very slowly towards perfection.

With regard to the nature and real extent of the change which had taken place in the condition of the icy seas, the reports were no doubt greatly exaggerated. To reduce them to their just amount, it would be necessary to estimate the annual effects produced in those regions, and likewise

to compare the observations of a similar kind made by experienced navigators at former periods. From a critical examination of the various facts left on record, it will perhaps appear that those Arctic Seas have been more than once, in the course of the last half century, as open as they are now represented.

To discuss with accuracy the question of the periodical formation and destruction of the Polar ice, it becomes necessary to explain the true principles which regulate the distribution of heat over the globe. This I shall attempt to perform, independent of every hypothesis, by a direct appeal to experiment and observation.

If at any place we dig into the ground, we find, by the insertion of a thermometer, that, as we successively descend, we approach constantly to some limiting temperature, which under a certain depth continues unchanged. This depth of equilibrium varies in different soils, but seldom exceeds thirty or fifty feet. If the excavation be made about the commencement of winter, the temperature will appear to increase in the lower strata; but, on the contrary, if the pit be formed in the beginning of summer, it will be found to grow colder in proportion as we descend.* Hence, the mass of the earth merely transmits very slowly the impressions of heat or of cold received at its surface. The external temperature

* In the dreary climate of Hudson's Bay, it is remarked by the residents, that, even during the summer months, in digging through the ground for a grave, they always come at the depth of a few feet to a stratum of frozen earth.—A singular feature of the remoter Arctic tracts is the frequent appearance of *red snow*. This deception is occasioned by the interspersed multitudes of minute plants, now termed *Protococcus Nivalis*, a species of *Algæ*, which penetrate to a great depth through the snow, and vegetate in the severest weather.

of any given day will perhaps take near a month to penetrate only one foot into the ground. By digging downwards in summer, we soon reach, therefore, the impressions of the preceding spring and winter; but the same progress into the ground brings us back to the temperatures of the autumn and of the summer. Still lower, all the various fluctuations of heat become intermingled and confounded in one common mean.

Such observations are more easily and correctly made, by having thermometers, with long stems, sunk to different depths in the ground; and from an extensive register we may conclude, that the temperature of the ground is always the mean result of the impressions made at the surface during a series of years. The successive strata, therefore, at great depths, may be regarded as permanent records of the average state of the weather in distant ages. Perhaps the superficial influence will scarcely descend fifty feet in the lapse of a century. Copious springs, which percolate the bowels of the earth, and rapidly convey the impressions of subterranean heat to the surface, will consequently furnish the most accurate reports of the natural register of climate. These, if rightly chosen, differ not sensibly in their temperature at all seasons; and, whether they have their seat at a depth of one hundred or of five hundred feet, they affect the thermometer alike.* We are

* The celebrated fountain of Vaucluse, situate in the latitude of 43° 55′, and 360 feet above the level of the Mediterranean Sea, has been observed to acquire its highest temperature about the first day of September, and to reach the lowest at the beginning of April; the former being 56°.3, and the latter 54°.1, by Fahrenheit's scale; which gives 55°.2 for its mean heat. The waters are collected from the fissures of an extensive limestone rock, and seem

l to conclude, that however the weather
ried from year to year, or changed its
intervals of short periods of years, it
rgone no material alteration during the
y ages.

sophers attempt to explain such facts
ated, from the supposed internal heat
caused by the action of central fires;
in support of their favourite hypothesis,
erature always increases near the bot-
leep mines. But this observation holds
ular situations, where the warm ex-
n the burning of lamps and the breath-
kmen are collected and confined under
ie galleries. In the case of a deep open
is quite reversed, the bottom being al-
than the mean temperature. This is
tendency of the chill air to descend by
ensity. The superficial impressions of
are thus not sent equally downwards;
armth of summer is dissipated at the
pit, while the rigours of winter are
w. A similar modification of tempe-
in profound lakes, in consequence of
n of the colder and denser portions of
vays to sink down.

nent heat of the ground is, therefore,
the mere accumulation of incessant ex-
sions. These impressions are received,
y from the sun's rays, or circuitously

erficial impressions in the space of three months.
with such a volume as to form, only a few yards
e, the translucid Sorgue, a river scarcely inferior
its discharge to the Tay above the town of Perth.

through the medium of atmospheric influence. air is better fitted for diffusing than for storin heat. The whole mass of the atmosphere, it be easily shown, does not contain more heat tl stratum of water only ten feet thick, or one of measuring fifteen feet. According to their re temperature, the winds, in sweeping alon ground, either abstract or communicate wa But the sun is the great and original fount heat, which the internal motion excited in t mosphere only serves to distribute more e over the earth's surface. The heat imparted air, or to the ground, is always proportional absorption of the solar beams; and the resu hence still the same, whether we embrace the theory, that heat is only the subtle fluid of li a state of combination with its substratum; (fer the opinion, that light has always conjoine it a certain admixture of the invisible ma heat.

Owing to the spherical form of the earth, a obliquity of its axis, very different quantities (or heat are received in the several latitudes. same portion of heat, which would raise the rature of 135 pounds of water a degree on F heit's scale, is only capable of melting one po ice. The measure of ice dissolved is, therefc simplest and most correct standard for esti the quantity of heat expended in that proce we apply calculation to actual experiment, w find that the entire and unimpaired light of t would, at the Equator, at the mean latitude and at the Pole, be sufficient to melt a thick ice expressed by 38.7, 25.9, and 13.4 feet. (

ıs action, the greatest portion is no doubt
n the vast abyss of the ocean; and, of the
er, a still larger share is perhaps detained
ipated in the upper atmosphere, or projected
a soft phosphorescence. Yet the light which,
se defalcations, finally reaches the surface
rth, if left to accumulate there, would create
quality of temperature as must prove quite
table.

ow-conducting quality of the ground, if not
y extraneous influence, would fix the heat
was received, and thus perpetuate the effect
equal action of the sun's beams. The mo-
the atmosphere hence performs an import-
in the economy of nature, as the great re-
' the system, dispensing moderate warmth,
ıpering the extremities of climate over the
e globe. As the heat accumulates within
:s, it will occasion currents of cold air to
. the higher latitudes. But the activity of
ı thus raised, being proportional to their
ause, must prevent it from ever surpassing
nits. A perpetual commerce of heat be-
e Poles and the Equator is hence main-
the agency of opposite currents in the at-
. These currents will often have their di-
odified; and they may still produce the
ts, by pursuing an oblique or devious course.
ıl phenomena of climate only require the
inds, throughout the year, to advance south-
northwards at the mean rate of almost two
hour, or to perform in effect three journeys
r annually from the Equator to either Pole.
these currents carry the impressions of heat

or cold directly from one extremity of the globe to the other, but by their incessant play they contribute, in the succession of ages, to spread them gradually over the intervening space.

The system of opposite aërial currents leads to the same law of the gradation of temperature in different latitudes, as the celebrated Professor Mayer of Göttingen deduced from an empirical process.* It would appear that the variation of the mean temperature at the level of the sea is always proportional to the sine of twice the latitude. Thus, for the parallels of every five degrees, the arrangement is simple:—

Latitude.	Mean Temperature.	Latitude.	Mean Temperature.
0°	84°	50°	53°.5
5°	83°.8	55°	49°.2
10°	82°.4	60°	45°.0
15°	80°.1	65°	41°.3
20°	77°.2	70°	38°.1
25°	74°.2	75°	35°.5
30°	70°.9	80°	33°.6
35°	67°.0	85°	32°.4
40°	62°.4	90°	32°
45°	58°.0		†

* This proposition admits of a mathematical demonstration, but which is too intricate for the present discourse.

† Perhaps the gradation of temperature would, in the higher latitudes, require a small modification. Instead of assuming 32° as the medium at the Pole, it might be more exact to adopt 28°, or the melting-point of the ice of sea-water. But the recent voyages have registered the coldness in advancing northwards as much more intense. It is evident, however, that their thermometrical observations must have been affected by some latent and material inaccuracy. Were the mean temperature of the Arctic regions really below the point of saline congelation, the annual formation of ice in those seas would exceed the quantity dissolved, and therefore the extension of the frozen fields would, contrary to fact, be constantly progressive. This argument appears to be quite conclusive; though

rithmetical mean, or 50°, corresponds to the latitude of 45° ; but the real mean of the ture over the whole surface of the globe is ich should occur on the parallel of 35° 51½′. s appears, that the system of currents main- n the atmosphere contributes essentially, by sing agency in transferring and dispersing prevent the excessive inequality of seasons igher latitudes. But the motions produced in ast mass of fluid must evidently follow, at ervals, the accumulated causes which excite Hence probably the origin of those violent which, succeeding to the sultry warmth of and the sharp frosts of winter, prevail in the of September and March, and are therefore y seamen the *Equinoctial Gales*. In the Arc- nature has made a further provision for cor- the excessive irregularity of the action of the ys. This luminary, for several months in is totally withdrawn from that dreary waste ; ompensate for his long absence, he continues an equal period in summer to shine without tion. Now, from a beautiful arrangement, ace of the ocean itself, by its alternate freez- thawing, presents a vast substratum, on he excesses of heat and of cold in succession tually spent. In ordinary cases, the super-

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mpts are made to elude its force, by alleging that thick ice, transmitting the impressions of cold with extreme may confine and exasperate the atmospheric rigours. But ts like water near the freezing-point, when this fluid con- xternal influence of heat and cold as a solid mass, unas- he translocation of its particles, which can occur only in f sensible expansions. The formation and dissolution of refore similar acts, that contribute equally to mitigate the s of the Arctic climate.

ficial water, as it cools and therefore contracts down into the abyss by its superior gravity when it grows warmer it expands, and conseq floats incumbent, communicating afterwards i plus heat with extreme slowness to the mass But the seas within the Arctic circle being near the verge of congelation, at which limit scarcely undergoes any sensible alteration of even from a considerable change of tempe the superficial stratum remains constantly sta and exposed to receive all the variable impr of the sweeping winds. The piercing cold o ter, therefore, spends its rage in freezing th water to a depth proportional to its intensit continuance.* The prolonged warmth of su again is consumed in melting those fields every inch of which in thickness requiring as absorption of heat as would raise the tempe of a body of water 10½ feet thick a whole The summer months are hence nearly gone the sun can dissolve the icy domes, and shoo entire effect his slanting rays. It may be that under the Pole the action of the solar li at the time of the solstice, one-fourth part than at the Equator, and sufficient in the co a day to melt a sheet of ice an inch and a half

If horizontal winds serve to balance the u action of the solar beams over the surface

* At Melville Island, in the latitude of 74° 45′, Captai observed ice to form, of a thickness from three to five around the ship's sides in the space of twenty-four hours. one instance it gained in that time the thickness of 7½ inch renheit's thermometer being then 12° below zero. Such p congelation, it might be computed, would require the full rating action of a stratum of air at that temperature, an more than a mile in height.

rising and descending currents excited in
of the atmosphere still more effectually
he equilibrium of day and night. After
. has become heated by the direct illumi-
he sun, it warms the lowest portion of the
air, which, being thus dilated, begins to
d therefore occasions the descent of an
on of the fluid. But these vertical cur-
g once created, will continue their motion
the primary cause has ceased to impel
may protract, during the night, the ac-
ı of chilled air on the surface of the earth.
is further augmented, in general, by the
npressions which are at all times darted
ɜ from a clear sky.* By the operation of
ıed system, therefore, the diurnal vicissi-
ɜmperature are diminished in the tempe-
ɔrrid zones. Another consequence results
rapid and continual interchange of the
lower strata, that the same absolute quan-
t must obtain at every altitude in the at-

equal distribution of heat at all elevations
by another principle, which causes the re-
ıtion upwards of a decreasing temperature.
: is found to have its capacity or attrac-
ɜat enlarged by rarefaction; so that any
the fluid carried to the higher regions,
y consequence expands, will have its tem-
ɔroportionally diminished. The decrease
ıture in ascending the atmosphere, to mo-

ɔlement to the Encyclopædia Britannica, vol. iii. part
Transactions of the Royal Society of Edinburgh, vol.
. 465.

decrease heights is not far from being uniform, at the rate of about one degree in Fahrenheit's scale for every hundred yards of elevation.* Hence the limit of perpetual congelation forms a curve, which is nearly the same as the *Companion of the Cycloid*, bending gradually from the Equator, receding its inclination at the latitude of 45°, and gaining the surface at the Pole. The mean heights of eternal frost, under the Equator, and at the latitudes of 30° and 60°, are respectively 15207, 11484, and 3813 feet.

It is important to remark, that the heat of large collections of water will seldom agree precisely with the mean temperature corresponding to the latitude. The variable impressions received at the surface from the atmosphere will not, as on land, penetrate slowly into the mass, and become mingled and equalized as a moderate depth. Heat is conducted through liquids chiefly by the internal play resulting from their partial expansion. In the more temperate regions of the globe, the superficial waters of lakes or seas, as they grow warmer, and, therefore, specifically lighter, still remain suspended by their

* It should be remarked, however, that at great elevations the law of equal decrements of heat suffers a considerable deviation in the higher regions of the atmosphere the increase of temperature advances proportionally faster. Such is the conclusion drawn from some late experiments, and confirmed by a comparison of various actual observations. It may be sufficient to notice here two distinct results. Thus, within at the level of the sea the mean temperature of the air or the heat is, in the tropical regions, 1 degree colder for each hundred yards of ascent. It suffers the same decrease at the elevation of one mile for every 92 yards, at two miles for 53 yards, at three miles for 78 yards, at four miles for 100 yards, and at five miles, the highest summit perhaps of our globe, the decrement of a degree for 99 yards. Within the Arctic circle the evolution of cold in ascending the atmosphere must be evidently more rapid.

red buoyancy. But whenever they come to be
d, they suffer contraction, and are precipitated
eir greater density. Hence the deep water,
of lakes and of seas, is always considerably
than what floats at the surface. The grada-
f cold is distinctly traced to the depth of twenty
ms, below which the diminished temperature
ues nearly uniform as far as the sounding-
an reach. In shallow seas, however, the cold
ratum of liquid is brought nearer to the top.
increasing coldness of water, drawn up from
lepth of only a few fathoms, may hence indi-
to the navigator who traverses the wide ocean
pproach to banks or land.

ese principles, however, will not apply to the
liar circumstances of the Arctic Seas. Water
s essentially, in its expansion by heat, from
ury, oil, or alcohol: Far from dilating uniform-
a property which fits the latter substances for
construction of thermometers, it swells from the
t of congelation, or rather a very few degrees
ve it, with a rapid progression, to that of boil-
. Near the limit of its greatest contraction, the
ume of water is scarcely affected at all by any
ration of heat. When the surface of the ocean
depressed to a temperature between 28 and 44
grees of Fahrenheit's scale, it will remain almost
gnant, and therefore exposed to the full impres-
n of external cold. Hence the Polar Seas are al-
ys ready, under the action of any frosty wind, to
fer congelation. The annual variations of the
ather are in those seas expended on the superfi-
l waters, without disturbing the vast abyss be-
w. Contrary to what takes place under milder

skies, the water drawn up from a considera
is often warmer within the Arctic circle th
lies on the surface. The floating ice acc
begins to melt generally on the under si
the slow communication of the heat sent u

These deductions are confirmed by the
results of astronomical observations. Any c
the temperature of our globe would occasi
responding mutation of volume, and cons
an alteration in the momentum of the r
mass. Thus, if from the accession of heat t
had gained only a millionth part of linea
sion, it would have required an increas
times proportionally more momentum to r
the same rotation. On this supposition, t
the diurnal revolution would have been ret
the rate of three seconds in a week. But th
of the day has certainly not varied one sec
year since the age of Hipparchus; for w
imagine that the ancient observations of
could ever deviate an hour, or even 3000", f
truth. We may hence conclude, that in t
of three thousand years the mass of our g
not acquired the ten-millionth part of ex
an effect which the smallest fraction of a d
heat would have communicated.

The accumulation of ice on the surface
ocean would likewise have occasioned a p
tion of the length of the day. This al
would no doubt be diminished under the
circle, from the proximity of the glacial p
rance to the axis; but its influence would sti
a notable difference.

After the continued action of the sun ha

d away the great body of ice, a short and du-
interval of warmth occurs. In the space of
weeks, visited only by slanting and enfeebled
frost again resumes his tremendous sway. It
to snow as early as August, and the whole
d is covered, to the depth of two or three feet,
the month of October. Along the shores and
ys the fresh water, poured from rivulets or
d from the thawing of former collections of
becomes quickly converted into solid ice. As
ld augments the air deposites its moisture in
rm of a fog, which freezes into a fine gossa-
etting or spicular icicles, dispersed through
mosphere and extremely minute, that might
to pierce and excoriate the skin. The hoar-
ettles profusely, in fantastic clusters, on every
nence. The whole surface of the sea steams
a limekiln,—an appearance called the *frost-*
, caused, as in other instances of the pro-
n of vapour, by the water's being still re-
ly warmer than the incumbent air. At
the dispersion of the mist, and consequent
ess of the atmosphere, announce that the up-
ratum of the sea itself has cooled to the same
ard ; a sheet of ice spreads quickly over the
h expanse, and often gains the thickness of an
in a single night. The darkness of a prolonged
r now broods impenetrably over the frozen
ent, unless the moon chance at times to ob-
her faint rays, which only discover the hor-
nd wide desolation of the scene. The wretch-
ttlers, covered with a load of bear-skins, re-
crowded and immured in their hut, every
of which they carefully stop against the pierc-

[illegible] and [illegible] cowering about the stove [illegible] they seek to [illegible] away the tedious [illegible] The [illegible] stock of provisions, though [illegible] the same apartment, is often frozen so hard as to [illegible] be cut by a hatchet. The whole of [illegible] becomes lined with a thick [illegible] and if they happen for an instant to [illegible] the moisture of the confined air is [illegible] in the form of a shower of [illegible] As the cold continues to penetrate deeper, [illegible] at a distance to split with loud [illegible] the [illegible] of death seems to wrap up [illegible] in [illegible] ruin.*

[illegible] appears above the horizon;† [illegible] betray the wide waste [illegible] By degrees, however, [illegible] is checked. In the month of May [illegible] inhabited inmates venture to [illegible] in quest of fish on the margin of the [illegible] As the sun acquires elevation his power [illegible] The snow gradually wastes away, [illegible] dissolves itself—and vast fragments

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* "The [illegible] which, during the cold weather, could be heard at a great distance, [illegible] served now and then to break in upon the [illegible] around us: a silence far [illegible] that [illegible] which characterizes the [illegible] of a [illegible] was the death-like stillness of the most distant [illegible] the total absence of animated existence." PARRY. During the winter at Melville Island, people were heard conversing at the distance of a mile. This was no doubt owing, partly to the density of the rarefied atmosphere; but chiefly to the absence of all obstruction in a scene of universal calm and darkness.

† In the Arctic regions, the atmosphere, being highly condensed by the intensity of the cold, the horizontal refraction is much augmented, which causes the sun to reappear several days sooner than might be expected from the latitude. This curious and cheering effect was first remarked by the unfortunate Hollanders who wintered at Spitzbergen in 1596.

detached from the cliffs, and undermined be-
, precipitate themselves on the shores with the
of thunder. The ocean is now unbound, and
r dome broken up with tremendous rupture.
normous fields of ice, thus set afloat, are, by
iolence of winds and currents, again dissevered
ispersed. Sometimes, impelled in opposite di-
ns, they approach, and strike with a mutual
, like the crush of worlds,—sufficient, if op-
, to reduce to atoms, in a moment, the proud-
onuments of human power. It is impossible
ture a situation more awful than that of the
rew of a whaler, who see their frail bark
atally enclosed, expecting immediate and in
le destruction.

ore the end of June, the shoals of ice in the
: Seas are commonly divided, scattered, and
ated. But the atmosphere is then almost con-
ly damp, and loaded with vapour. At this
ı of the year, a dense fog generally covers the
e of the sea, of a milder temperature indeed
the frost-smoke, yet produced by the inversion
: same cause. The lower stratum of air, as it
sively touches the colder body of water, be-
chilled, and thence disposed to deposite its
ure. Such thick fogs, with mere gleams of
weather, infesting the northern seas during
reater part of the summer, render their navi-
ı extremely dangerous. In the course of the
h of July, the superficial water is at last brought
equilibrium of temperature with the air, and
un now shines out with a bright and dazzling
nce. For some days before the close of the sum-
such excessive heat is accumulated in the bays

and sheltered spots, that the tar and pitch are sor
times melted, and run down the ship's sides.

Notwithstanding the shortness of the summer
the high latitudes, the air on land becomes ol
oppressively sultry. This excessive heat, b
conjoined with moisture, engenders clouds of n
quitoes, from the stings of which the Laplan
are forced to seek refuge in their huts, where t
envelope themselves in dense smoke. Humi
marks the general character of the Arctic regi
which are covered during the greater part of
year with chilling fogs. The sky seldom app
clear, except for a few weeks in winter, when
cold at the surface becomes most intense. Yet
rigour of that season is not felt so severely as
thermometer would indicate. When the temp
ture is lowest, the air is commonly calm, and th
fore abstracts less heat from the body than the
pressure of a strong wind of much inferior cold
The providence of the natives serves to mitigat
hardships they have to suffer. The Esquim
on the approach of winter, cut the hard ice into
square blocks, with which they construct reg
spacious domes, connected with other smaller c
for the various purposes of domestic economy. T
shape the inside with care, and give it an even gl
surface by the affusion of water. The snowy
soon becomes a solid concrete mass, which, bei
slow conductor, checks the access of cold, whil
admits a sufficient portion of light. It may als
remarked, that the external darkness prevails
during a part of the day. Since twilight obt
whenever the sun is less depressed than 18 deg
below the horizon, the limits of entire obscura

occur in the latitudes of 84½° and 48½°; in the former at mid-day in the winter solstice, and in the latter at midnight in the solstice of summer. Between these extremes the atmosphere at the opposite seasons glows, to a greater or a less extent, from the middle of the day or of the night. Accordingly, Captain Parry's party, during their detention at Melville Island, in the latitude of 74° 40′, found that, in clear weather about noon, they could easily, in the depth of winter, read the smallest print on deck. This position corresponds to the alternating parallel of 58° 20′, which nearly reaches Orkney, where the transparency of the nights in the height of summer is well known.* The approach of twi-

* This view of the subject deserves perhaps more elucidation. The inhabitant of a temperate climate may hence form a better conception of the progressive glimmer of an Arctic winter. In a high northern latitude the dusky glow at noon in mid-winter exactly resembles the summer twilight in some corresponding latitude farther south. Let L and *l* denote the two northern latitudes, D and *d* the north or south declination of the sun; then will the depression of this luminary below the horizon be expressed in winter by *d*+L—90°, and in summer by 90°—D—*l*. Assuming 23½° for D and *d*, the depressions at the solstitial points will be respectively L—66½° and 66½°—*l*; and consequently reckoning the limit of darkness when the sun is 18° below the horizon, L—66½°=18°, and 66½°—*l*=18°, and L=84½°, and *l*=48½°, being the latitudes where the gleam at mid-day in winter and the twilight at midnight in summer first appear. But, in general, the latitudes of equal obscurity or illumination are evidently included in the simple formula L+*l*=133°. Hence this equivalent table:—

84½°	48½°
85°	48°
86°	47°
87°	46°
88°	45°
89°	44°
90°	43°

At the Pole, therefore, it is as dark at noon in the depth of winter as it is at midnight in the summer solstice at the latitude of 43°.

But a modification may possibly be required. We should probably come nearer the truth to assume, as the limit of darkness, a depression of 20° for the Arctic regions (where the horizontal re-

light is, besides, advanced in the frozen regions by the superior refractive power of a very dense atmosphere. The horizontal refraction usually raises the lower limb of the sun and moon about the twelfth part of their diameters, and often gives it a wavy and fantastic outline. Hence the reappearance of those luminaries is hastened within the Arctic circle, though the quantity of anticipation has been much exaggerated.

The ice which obstructs the navigation of the Arctic Seas consists of two very different kinds; the one produced by the congelation of fresh, and the other by that of salt water. In those inhospitable tracts the snow, which annually falls on the islands or continents, being again dissolved by the progress of the summer's heat, pours forth numerous rills and limpid streams, which collect along the indented shores, and in the deep bays enclosed by precipitous rocks. There this clear and cold water soon freezes, and every successive year supplies an additional investing crust, till after the lapse perhaps of several centuries, the icy mass rises at last to the size and aspect of a mountain commensurate with the elevation of the adjoining cliffs. The melting of the snow, which is afterwards deposited on such enormous blocks, likewise contributes to their growth; and, by filling up the accidental holes or crevices, it renders the whole structure compact and uniform. Meanwhile the principle of destruction has already

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traction is so much increased by excessive cold, and only 16° for the milder climates. The table would then stand thus:—

30°	30°
35°	36°
40°	42°
45°	48°
50°	47°

gun its operations. The ceaseless agitation of the
a gradually wears and undermines the base of the
y mountain, till, at length, by the action of its
vn accumulated weight, when it has perhaps at-
ined an altitude of a thousand, or even two thou-
nd feet, it is torn from its frozen chains, and pre-
pitated, with tremendous plunge, into the abyss
low. This mighty launch now floats like a lofty
and on the ocean; till, driven southwards by
inds and currents, it insensibly wastes and dis-
lves away in the wide Atlantic.

Such I conceive to be the real origin of the icy
ountains or *icebergs*, entirely similar in their for-

mation to the *glaciers* which occur on the flanks of the Alps and the Pyrenees. They consist of a clear,

compact, and solid ice, which has the fine green tint verging to blue, which ice or water, when very pure and of a sufficient depth, generally assumes. From the cavities of these icebergs, the crews of the northern whalers are accustomed, by means of a *hose*, or flexible tube of canvass, to fill their casks easily with the finest and softest water. Of the same species of ice, the fragments which are picked up as they float on the surface of the ocean yield the adventurous navigator the most refreshing beverage.*

It was long disputed among the learned, whether the waters of the ocean are capable of being congealed; and many frivolous and absurd arguments, of course, were advanced to prove the impossibility of the fact. But the question is now completely resolved; and the freezing of sea-water is established both by observation and experiment. The product, however, is an imperfect sort of ice, easily distinguishable from the result of a regular crystallization: it is porous, incompact, and imperfectly diaphanous. It consists of spicular shoots, or thin flakes, which detain within their interstices the stronger brine; and its granular spongy texture has, in fact, the appearance of congealed syrup, or what the confectioners call *water-ice*. This saline ice can, therefore, never yield pure water; yet, if the strong brine imprisoned in it be first suffered to drain off slowly, the loose mass that remains will melt into a brackish liquid, which in some cases may be deemed potable.†

* The water which flows from those Arctic glaciers becomes frozen again on the approach of winter, and forms along the coast a thick stratum of blue solid ice, imbedded in the beach, and from six to ten feet under the surface.

† Captain Parry remarked, that the superficial water near melt-

To congeal sea-water of the ordinary saltness, or containing nearly the thirtieth part of its weight of saline matter, it requires not an extreme cold: this process taking effect about the 27th degree on Fahrenheit's scale, or only five degrees below the freezing-point of fresh water. Within the Arctic circle, therefore, the surface of the ocean being never much warmer, is, in the decline of the summer, soon cooled down to the limit at which congelation commences. About the end of July, or the beginning of August, a sheet of ice, perhaps an inch thick, is formed in the space of a single night. The frost now maintains ascendency, and shoots its increasing energy in all directions, till it has covered the whole extent of those seas with a solid vault to the depth of several feet. But, on the return of spring, the penetrating rays of the sun gradually melt or soften that icy floor, and render its substance friable and easily disrupted. The first strong wind, creating a swell in the ocean, then breaks up the vast continent into large fields, which are afterwards shivered into fragments by their mutual collision. This generally happens early in the month of June; and a few weeks are commonly sufficient to disperse and dissolve the floating ice. The sea is at last open, for a short and dubious interval, to the pursuits of the adventurous mariner.

While icebergs are thus the slow growth of ages, the fields or shoals of saline ice are annually formed

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ng ice had scarcely any trace of saltness. In other observations made about the end of July, he discovered the water at the surface to contain only the 550th part of its weight of salt; but under ten fathoms the proportion had increased to the 39th, and at the depth of 300 fathoms to the 37th part. The friable ice of sea-water was found to hold the 115th part of salt.

and destroyed. The ice generated from melted snow is hard, pellucid, and often swells to enormous heights and dimensions. But the concretion of salt water wants solidity, clearness, and strength, and never rises to any very considerable thickness. It seldom floats during more than part of the year; though, in some cold seasons, the scattered fragments may be surprised by the early frost, and preserved till the following summer.

The whale-fishers enumerate several varieties of the salt-water ice. A very wide expanse of it they call a *field*, and one of smaller dimensions a *floe*. When a field is dissevered by a subaqueous or *ground* swell, it breaks into numerous pieces, seldom exceeding forty or fifty yards in diameter, which, taken collectively, are termed a *pack*. This pack again, when of a broad shape, is called a *patch*; and, when much elongated, a *stream*. The packs of ice are crowded and heaped together by violent winds; but they again separate and spread asunder in calm weather. If a ship can sail freely through the floating pieces of ice, it is called *drift-ice*; and the ice itself is said to be *loose* or *open*. When, from the effect of abrasion, the larger blocks of ice are crumbled into minute fragments, this collection is called *brash-ice*. A portion of ice rising above the common level is termed a *hummock*, being produced by the squeezing of one piece over another. These hummocks or protuberances break the uniform surface of the ice, and give it a most diversified and fantastic appearance. They are numerous in the heavy packs, and along the edges of ice-fields, reaching to the height of thirty feet. The term *sludge* is applied by the sailors to the soft and incoherent crystals

the frost forms when it first attacks the ruffled
of the ocean. As these increase, they have
ffect, like oil, to still the secondary waves;
y are prevented from coalescing into a con-
sheet, by the agitation which still prevails;
y form small discs, rounded by continual at-
and scarcely three inches in diameter, called
es. Sometimes these again unite into circu-
es, perhaps a foot thick, and many yards in
erence.

fields and other collections of floating ice are
scovered at a great distance, by that singu-
arance on the verge of the horizon, which
tch seamen have termed *ice-blink*. It is a
of lucid whiteness, occasioned evidently by
e of light reflected obliquely from the surface
ice against the opposite atmosphere. This
streak, which looks always brightest in clear
r, indicates, to the experienced navigator, 20
niles beyond the limit of direct vision, not
e extent and figure, but even the quality of

The *blink* from packs of ice appears of a
hite, while that which is occasioned by snow-
as some tinge of yellow.

mountains of hard and perfect ice are the
l production, perhaps, of many centuries.
the western coast of Greenland, prolonged
avis' Strait, they form an immense rampart,
presents to the mariner a sublime spectacle,
ling, at a distance, whole groups of churches,
ng castles, or fleets under full sail. Every
ut especially in hot seasons, they are partially
ed from their seats, and whelmed into the
ea. In Davis' Strait those icebergs appear

the most frequent; and about Disco Bay, where soundings exceed 300 fathoms, masses of such e mous dimensions are met with, that the Dutch men compare them to cities, and often bestow them the familiar names of Amsterdam or H lem. They are carried towards the Atlantic by current which generally flows from the north- and after they reach the warmer water of the lo latitudes they rapidly dissolve, and finally di pear, probably in the space of a few months.

The blocks of fresh-water ice appear blac they float; but show a fine emerald or b hue when brought up on the deck. Though fectly transparent like crystal, they sometimes close threads or streamlets of air-bubbles, extric in the act of congelation. This pure ice, being a fifteenth part lighter than fresh water, must co quently project about one-tenth as it swims on sea. An iceberg of 2000 feet in height would th fore, after it floated, still rise 200 feet above the face of the water. Such, perhaps, may be consid as nearly the extreme dimensions. Those mo tains of ice may even acquire more elevation distance from land, both from the snow which on them, and from the copious vapours which p pitate and congeal on their surface. But in ger they are carried forwards by the current which from the north-east into the Atlantic, where, ba in a warmer fluid, they rapidly waste and diss It may be shown by experiment, that if the w in which they float had only the temperature of the mass of ice would lose the thickness of an every hour, or two feet in a day. Supposing surface of the sea to be at 52°, the daily diminu

ickness would be doubled, and would therefore
nt to four feet. An iceberg having 600 feet
tal elevation would hence, on this probable
ate, require 150 days for its dissolution. But
elting of the ice would be greatly accelerated if
ass were impelled through the water by the
of winds. A velocity of only a mile in an
would triple the ordinary effect. Hence, though
bodies of ice are often found near the banks of
undland, they seldom advance farther, or
eyond the 48th degree of latitude. Within
retic regions those stupendous blocks remain,
ir mere inertia, so fixed on the water, as com-
to serve for the mooring of vessels employed
whale-fishery. In such cases, however, it is
sary precaution to lengthen the cables, and
t some distance from the frozen cliff; because
gments of ice, which the seamen term *calves*,
equently detached from the under part of the
and, darting upwards, acquire such a velocity
ir ascent, that they would infallibly strike
into the ship's bottom.

e ice produced from salt-water is whitish, po-
and almost opaque. It is so dense, from the
ity of strong brine enclosed in its substance, that,
floating in the sea, it projects only one-fiftieth
bove the surface. The porous saline ice has a
le thickness, yet seldom exceeding six feet.
his saline ice, which during the greater part of
ar covers the Arctic Seas, is annually formed
estroyed; a small portion of it only, and at
n seasons, escaping the general wreck. The
commonly lasts about three months; and dur-
at time the heat of the solar rays, which, though

oblique, yet act with unceasing energy, whethe
plied directly or through the intervention of th
or the water, is sufficient for the dissolution o
the ice produced in the course of the autumn,
winter, and the spring. It may be proved by ex
ment that, under the Pole itself, the power o
sun at the solstice could, in the space of a v
melt a stratum of five inches of ice. We may l
fairly compute the annual effect to be sufficien
thawing to the depth of forty inches. It sl
likewise be observed, that, owing to the prev
haziness of the atmosphere in the northern latit
those singular cold emanations which always
from an azure sky, and in the more temperat
mates diminish the calorific action of the sun
by one-fifth part, can scarcely exist. On thi
count, perhaps, the estimate of the annual de
tion of Polar ice may be raised to a thickn
four feet.

As heat is absorbed in the process of thawi
it is again evolved in the act of congelation.
annual formation and destruction of ice withi
Arctic circle, is thus a beautiful provision of N
for mitigating the excessive inequality of tem
ture. Had only dry land been there opposed
sun, it would have been absolutely scorched l
incessant beams in summer, yet pinched d
the darkness of winter by the most intense an
netrating cold. None of the animal or veg
tribes could have at all supported such extr
But, in the actual arrangement, the surplus h
summer is spent in melting away the ice; a
deficiency in winter is partly supplied by the
ence of the progress of congelation. As long

mains to thaw, or water to freeze, the tempera-
e of the atmosphere can never vary beyond cer-
n limits. Such is the harmony of the system;
d all experience and observation forbid us to be-
ve it to be subject to any radical change. Some
ns may chance to form more ice than others, or
melt more away; but it were idle to expect any
ng like a general or permanent disruption of the
cial crust which binds the regions of the north.
om were this ice once removed, a similar collec-
n would soon succeed, since it is always the ef-
t, and not the cause, of the disposition of the at-
sphere, which it really serves to temper. We
uld be guilty of the most vicious reasoning in a
cle, if we maintained that ice first cooled the air,
d that this cold air next increased the fields of
e.

But, whatever be the vicissitudes of the Polar
e, they cannot, in any sensible manner, affect
e climates of the lower latitudes. The whole
rcumjacent space where frost holds his reign,
ers a very small proportion to the surface of the
rthern hemisphere. Reckoning from the parallel
f sixty degrees, it would not exceed the eighth
rt; but, since the gelid region hardly extends
low the latitude of seventy-five degrees, it may
e stated at the thirty-second part of the hemi-
here. On the supposition, therefore, that the Arc-
c cold were all transferred and infused into the
osphere of the south, it could yet produce no
ible alteration of climate.

Even if we imagined with Mr Scoresby, that,
ring the years 1816 and 1817, two thousand
uare leagues of ice have disappeared in the Green-

ıve the smallest power to chill the super-
:r; for the moment any portion of this
l, it would, from its increased density,
into the vast abyss. The surface would
cted till after the cooling had, in its pro-
'aded the whole mass from the bottom

According to the calculations of La-
ıded on a comparison of the theory of tides
ıl observation, the mean depth of the
eds ten English miles. Supposing, there-
nd blowing from some northerly point,
grees colder than the water, were to sweep
tlantic six months every year, at the rate
ıiles an hour, it would take 220 years to
ɔm that vast body of water a single de-
.t.*

rsons have imagined that the mountains
ɔf ice, which are occasionally drifted into
ic Ocean, must be sufficient, by their fri-
ıence, to modify the character of our cli-
.e of the first who advanced that opinion
genious Richard Bradley, fellow of the
ety, and professor of botany in the Uni-
Cambridge. In "A Survey of the An-
ıandry and Gardening, collected from the
l Roman Writers," printed in octavo at
. 1725, he introduces the following re-
ɔassage:—

that Laplace, on reviewing his intricate analysis, re-
ively the measure he had assigned for the mean depth
without coming to any precise conclusion. But even
rere only five miles, or equal to the elevation of the
tains, the continued and absolutely concentrated ac-
rthern winds during more than a century would still
though counteracting causes were excluded, to cool
s of the Atlantic merely one degree.

"The author mentions the cause of winds becoming cool by mixing with the effluvia of snow or ice, because I have made some remarks upon the remembrances weather, which often happens about the end of May, or in June, which has in all my observations been brought in by westerly winds; and again, I observe that at such times large islands of ice and snow are passing to the southward in the Western Ocean, as I have been informed by several masters of ships that were then coming from our plantations to England. Some of these islands are so large as to measure sixty miles in length, and creating so great a vapour, that for a day's voyage on the side of them, the weather has been so hazy that the mariners could not discover what they were: and this was accompanied with so much cold, that they imagined they had mistaken in their accounts, and got several degrees too far towards the north: but a day or two explained the matter, and gave them an opportunity of surveying what they had been so much surprised at. Now, considering the extraordinary heat of the sun at the season these appear, the vapour must be very considerable that rises from them, and it is no wonder then, that, as it expands itself, it presses the air with violence enough to cause tempests and carry cold along with it."

But a little reflection will convince us that such remote influence on our climate must be quite insignificant. At a very wide estimation, the surface of ice exposed to the winds could never exceed the thousandth part of the whole expanse of the Atlantic Ocean; consequently the general temperature of the air would not be altered the fortie

legree. Nor could this minute impression
to our shores, being invariably spent in
ı of the voyage. The opinion which Mr
entertained near a hundred years ago
ve been tolerated in the infancy of physi-
e; but that the same notion should be re-
d proclaimed with confidence at this day,
excite surprise.

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reasonings, which suggested themselves on
on of the sailing of the first expedition sent
ıment to explore the Arctic Seas, have been
y confirmed by the results of the late dar-
ges. Captain Parry, by the most vigilant
indeed, succeeded, during the brief in-
an open season, to advance from Baffin's
Lancaster Sound, above 400 miles west-
ırough floating masses of ice, on the pa-
75 degrees; but this distance is probably
ıird part of the whole space between the
and Pacific Oceans. All the subsequent
of that able navigator to penetrate any far-
ıe same direction have proved unsuccess-
his last arduous scheme of reaching the
dragging boats over an expanse of rough
en ice, completely failed. The utmost la-
d incited exertions of the crews scarcely
ıim to proceed, in 1827, three degrees north-
m Spitzbergen, and attain the latitude of
ıot far beyond the usual resort of the Green-
ılers. Captain Weddell, without any stimu-
ational reward, had, four years before, the
n to penetrate to a very great height in the
hemisphere, which is always considered

milder and less accessible than the northern, hill
ascended to the altitude of 7P 15' in an open

On the supposition that the quantities of ice
accumulate the Arctic Seas have been accumu
for a long succession of years, it is assumed as a
that throughout Europe a milder and more g
climate had formerly prevailed. A closer inq
tion of the details however, will show this opi
ation to be destitute of any solid support. O
hears continual complaints, indeed, of the alte
condition of the seasons, especially from elde
persons, whose bodily frame has become more s
sceptible to the impressions of cold: but similar
lamentations have been repeated by the poets and
vulgar from the earliest times. If we listened t
plaints of such querulous declaimers, we should
here that Nature has spent all her fires, an
hastening fast into decay. Immense forests, i
said, anciently clothed the highest tracts of
island and other northern countries, where scar
a tree can now be made to grow. The perio
vintage was in former ages several weeks ea
in France than at present; vineyards were pla
during the time of the Romans in various par
the south of England, where at this day even
hop plant is raised with difficulty: and the side
many hills in Scotland bear evident traces of
plough, which have been long since abandoned i
irrievably to the dusky heath.

But, in answer to such allegations, it may be
served, that a patch of wood will not thrive in
situations, merely for want of the shelter whic
afforded by extensive plantations. In Sweden
Norway, which are mostly covered with natural

ıs become an object of police to prevent
scriminate destruction. The timber in
ın countries is cut at stated periods of its
ıd in detached portions; the vacant spaces
ıs nurseries, imbosomed amidst an expanse
s. Some places in Sweden, where the fo-
been accidentally destroyed by fire, pre-
nage of sterility and of wide desolation.
›bable that the vines grown in ancient
› coarser and hardier plants than those
now cultivated. A similar observation
all the products of gardening. A succes-
igent culture softens the character of the
tribes, and renders them more delicate,
ightens the flavour of the fruit. The Ro-
ers stationed in Britain would naturally
ıe, their accustomed beverage, however
poor, to the *cervisia*, or unpalatable ale
' the rude arts of the natives.
.rks of tillage left on our northern hills
r the wretched state of agriculture at a re-
›d. For want of a proper system of rota-
the due application of manure, the starv-
ry were then tempted to tear up with the
ery virgin spot they could find, and, after
from it a pitiful crop or two of oats, to
t to a lasting sterility. The cattle in those
ing no sort of provender through the win-
y straw, were quite feeble and exhausted
ing. The soil, too, was very stiff, from
repeated and seasonable tillage. Under
mstances, it affords no proof of any great
the slothful peasants, oppressed with a
›thes, usually began their operations in the

field before sunrise, while preparing the ground for the reception of the barley-seed.

It is very difficult to ascertain the precise condition of the weather in distant ages. The thermometer was not invented till 1590, by the celebrated Sanctorio; nor was that valuable instrument reduced to a correct standard before the year 1724, by the skill of Fahrenheit. We have hence no observations of temperature which go further back than a century. Prior to this period, we must glean our information from the loose and scanty notices which are scattered through the old chronicles relative to the state of the harvest, the quality of the vintage, or the endurance of frost and snow in the winter. Great allowance, however, should be made for the spirit of exaggeration and the love of the marvellous which infect all those rude historical monuments.

On glancing over the incidental notices of the state of the weather, it is obvious that no material change has taken place for the last thousand years in the climate of Europe; but we may conjecture that it has gradually acquired rather a milder character; at least its excessive severity appears on the whole to be of rarer occurrence. The weather seems not to affect any precise course of succession, although two or more years of remarkable heat or cold often follow consecutively; yet there can be no doubt that series of atmospheric changes, however complicated and perplexing, are as determinate in their nature as the revolutions of the celestial bodies. When the science of meteorology is more advanced, we shall, perhaps, by discovering a glimpse of those vast cycles, which result from the varied aspects of the sun combined with the feebler influence of the

at length enabled to predict, with some probability, the condition of future seasons. mediate period of nine years, or the semi- ı nearly of the lunar nodes and apogee, by Toaldo, seems not to be altogether desti- undation. Thus, of the years remarkably 2 was succeeded, after an interval of four · 36 years, by 1658, whose severity lasted he following year. The same interval brings 5, and five periods more reach to 1740, famous cold year; three periods now come 767, nine years more to 1776, and eighteen re to 1794, the cold continuing through f the hot years it may be observed, that ds of nine years extend from 1616 to 1652, such again to 1679. From 1701 to 1718 an interval of 17 years, or very nearly ls, while three periods reach to 1745, ano- d to 1754, and one more falls on 1763, 1779 to 1788 there are just nine years. 1818 would therefore correspond to 1701, l 1746, and consequently very nearly to gain, the years 1784, 1793, 1802, and 1811, tervals of successive periods, were all of arkably warm. The dry season of 1819, resent hot summer of 1831, follow nearly sequence. A cycle of 54 years, including six of these subordinate periods, has lately osed with much confidence, but apparently r grounds.

climate had undergone any real change in temperate parts of Europe, a correspond- tion, with very distinct features, must in- have taken place in the Arctic regions.

But a dispassionate inquiry discovers no circu
stances which at all clearly point at such a concl
sion. On this head we may readily satisfy ourselv
by a short retrospect of the principal facts whi
have been recorded by voyagers.

Greenland, in its position and general outli
appears to resemble the vast promontory of So
America. From Cape Farewell, a small island,
vided from the shore by a narrow inlet called St
ten Hoek, in the latitude of 60°, it stretches, i
north-westerly direction, about 200 miles, to C
Desolation, and then nearly northwards to G
Haven, in latitude 65°, where it inclines, near
point towards the east, so far as the Island of D
which occupies a spacious bay, between the
tudes of 67° and 71°, in Davis' Strait. Th
the continent extends almost due north, beyon
latitude of 76°, till it is lost in the recesses of
lin's Bay. On the other side Greenland stre
about north-north-east 300 miles, but with a
sinuosity, till nearly opposite to Iceland, in th
titude of 64°, and now advances almost north
to the latitude of 75°, when, suddenly bendi
the north, it holds this direction beyond Spit
gen and the latitude of 80°. The coast is
where bold and rocky, like that of Norway;
the interior of the country consists of clustering
mountains, covered with eternal snows. Bu
western side, which forms Davis' Strait, is in
ed with numerous bights, creeks, and *fiords* or f
which, for the space of two or three months
year, look verdant, and yield tolerable pastu
The eastern shore, again, which properly b
the Greenland Seas, can rarely be approach

the whalers, as the accumulated stream of ice, which in summer is constantly drifting from the north-east, creates a formidable barrier. The position of this icy boundary, though nearly parallel to the land, is not absolutely fixed, but varies within certain limits in different years. The late survey by Mr Scoresby was therefore not very satisfactory.

In Davis' Strait the whalers generally resort to Disco Bay, or push farther north; sometimes as far as the latitude of 76°, to the variable margin of the great icy continent. On the other side of Greenland, about the meridian of eight degrees east from Greenwich, the ice, in warm seasons, retires to the latitude of 80°, beyond Hakluyt's Headland, at the extremity of Spitzbergen; while at other times it advances as far south on the same line as the latitude of 70°, enveloping the whole of that island, but forming below it a wide bay, called the *Whalefisher's Bight*, on the parallel of Bear Island. The former are called *open* and the latter *close* seasons. In open seasons the ships employed in these fisheries find a channel from 20 to 50 leagues wide, through which they shoot forward along the shores of Spitzbergen, till they reach the latitude of 78° or 79°, where the whales are most abundant. The chase of these animals, in the Greenland Seas at least, seldom lasts above two months, commencing generally at the end of April and terminating with June, when they usually disappear, and the prevalence of dense fogs renders the navigation very dangerous. In Davis' Strait the fishery continues often for two, or even three months longer. Mr Scoresby thinks it were better if our Greenland ships, like the Dutch and other foreigners, began

their voyage somewhat later than has becor
practice. In close seasons, the hardy navig
obliged, with imminent peril and hazard, to
his ship by *towing*, under a press of sail and a
by ropes and saws, through the drift-ice whic
ders the great barrier, endeavouring to follow
vein *of water* that runs nearly in the requi
rection. If he fail in this attempt, he must
the chance of a profitable voyage, and conter
self with the humbler pursuit of catching se

The space over which the line of ice may
posed to oscillate in the Greenland Seas,
1400 miles from Cape Farewell to 200 miles
Jan Mayen's Island, which it includes, an
mean breadth of about 80 miles. Such is
tent of the mere surplus ice formed and d
from year to year,—exceeding the whole su
Great Britain. Hence the quantity melte
berated during the years 1816 and 1817
very considerable proportion to the ordinary
ating mass. It is therefore evident that, w
may be the casual variations of the frozen
no mighty alteration has yet taken place in
mate and condition of the Arctic Seas.

If we compare the journals of former na
we shall be convinced that all the change
Polar ice are periodical, and are again rep
no very distant intervals of time. We n
over the pretensions of some Dutch captai
alleged that they had been carried by winds
rents as far north as the latitude of 88°,
that of 89° 40′, and consequently only twen
from the Pole; since their estimate, at a
rude from observations with the fore-staff, w

founded on mere dead reckoning after a continuation of foggy weather. Davis, in 1587, ascended, in the strait which deservedly bears his name, to the latitude of 72° 12′, where he found the variation of the compass to be 82° west, or nearly the same as at present. In 1616, Baffin advanced, in the same quarter, as high as the latitude of 78 degrees. Hudson had, nine years before, penetrated in the Greenland Seas to the latitude of 81°, and seen supposed land as high as that of 82° lying to the north-east of Spitzbergen. But it is mortifying to remark how little progress has been made in geographical discovery since those early and intrepid adventurers explored the Arctic regions with their humble barks, which seldom exceeded the size of fifty tons. We must pass over a very long interval to obtain authentic information. In 1751, Captain M'Callam, whom Mr Barrington calls a scientific seaman, sailed without obstruction from Hakluyt's Headland as high as the latitude of 83½°, where he found an open sea; and the weather being fine, nothing hindered him from proceeding farther but his responsibility to its owners for the safety of the ship. Captain Wilson, about the end of June 1754, having traversed floating ice from the latitude of 74° to 81°, at last found the sea quite clear as far as he could descry; and he advanced to the latitude of 83°, till, not meeting with any whales, and beginning to apprehend some danger, he shaped back his course. At this very time, Captain Guy, after four days of foggy weather, was likewise carried to the same point. The Polar Seas at this period must indeed have been remarkably open; for one of the most extraordinary and best-authenticated voyages

was performed in 1754 by Mr Stephen
skilful and accurate observer, whose tes
put beyond all manner of doubt by the
ment of the late astronomer-royal, Dr M
This navigator informed him, that about
May he was driven off Spitzbergen by a
wind, which blew for several days, till he
ed the latitude of 84½°; and that in th
this run he met with little ice and no d
and did not find the cold to be anywise
In different subsequent years the Greenlan
have advanced to the latitude of 81 or 8
This was accomplished even in 1766; alt
cording to Kerguelin, the whole space bet
land and the opposite coast was then fr
The year 1773, or that in which Capta
performed his voyage, was still more favo
approaching towards the North Pole. In
elder Mr Scoresby ascended to the latitu
50′; but in the following year he could n
farther than the parallel of 78½°. In
higher latitudes were again accessible; a
short interval, the summers of 1815, 1816,
are represented as open seasons; though n
whalers have now penetrated so far into
as had been done in many former years,
cularly in 1754.

In this plain statement one can percei
cided symptoms of any general or progre
dency towards a dissolution of the Polar
frozen border alters its position from on
another, and probably returns again to th
mits after certain short periods of time.
tuations are analogous to the incessant char

he state of the weather in the more tempe-
gions. The complex system of winds moulds
mate, and varies the features of the seasons
he globe. It is a common remark of those
equent the Polar Seas, that they find always
st obstruction from ice when the preceding
has been very severe in the more southern
es. In the year 1766, though the frost had
most intense through the rest of Europe, the
s reached a high latitude; and, not to mul-
nstances, the three seasons preceding 1818,
ed very open, succeeded to winters notori-
cold and protracted. Nor is it difficult to
the reason of this seeming paradox; for our
winters are occasioned by the prevalence of
dy winds, which must arrive at the Polar
om the south, and consequently transport so
warmth to them as may check the usual ri-
f the frost.

main argument, however, brought to prove
terioration of the Arctic climate, is drawn
ne supposed existence of a colony which had
ourished on the eastern coast of Greenland,
s for several centuries become extinct; all
o its remains being at length completely bar-
the accumulation of ice. This tale, which
o have owed its birth to Torfæus, the histo-
Norway, has obtained very general credence.
sober examination of the early *Sagas*, or
n chronicles, so full of wonder and fable,
ow that there is no solid reason for entertain-
h a notion, or believing that the first settle-
f Greenland was made on the east side of
tinent. The whole contexture of the ori-

ginal narrative indicates the very opposite co
sion.

After the North had ceased to send forth he
merous swarms upon the fertile provinces o
Roman empire, the Scandinavian nations, pro
by their peculiar situation, betook themselve
life of maritime adventure. Those bold and h
pirates visited every sea, and pillaged, duri
course of nearly three hundred years, all the
of Europe, from the extremity of Scotland t
shores of Sicily. During the first half of the
century, they conquered the Orkneys, the She
and Western Isles—obtained possession of Irel
plundered England and France—and extended
ravages to Italy. In 876, the Northmen, or
mands, extorted from the weakness of the F
king the cession of the fine province of Neu
where they quietly settled; while another pa
these fierce invaders had occupied the fertile
of Esthonia, on the south side of the Baltic.

But the visits of those intrepid navigators
not confined to the richer countries of the
They carried ravens with them, for the purp
discovering distant land by the direction o
flight of those powerful and sagacious birds
861, Nadodd, a roving pirate, in one of his vo
in the northern seas, happened to be cast aw
an island which he called *Snowland*. Three
afterwards, Gardar and Flocke, two Swedes,
it; and having found a great quantity of dr
collected on the north side of it, they gave
name of *Iceland*, which it still bears. But ir
Ingolf and Leif, two famous Norwegian adv
ers, carried a colony to this inhospitable regio

having enriched it with the booty which
ravaged from England. Other emigrants,
the disorders of the times drove successively
ame, resorted in crowds to the new settle-
which became very considerable in the space
years.

nd itself was able, after the progress of about
ry, to send out likewise her colonies. Thor-
a proud and opulent Norwegian chief, who
n lately banished thither from the court for
rder committed by him, soon died in exile,
his wealth and his restless spirit to his son
ade, or the *Red*. This youth, actuated by
e vengeful passions, killed one of his neigh-
a fight, and was obliged to withdraw him-
n Iceland for the space of three years. In
e sailed in quest of adventure and discovery.
ed by the reports of former navigators, he
his course towards the south-west; and,
quick run, he descried two lofty mountains,
covered with snow and the other cased with
ich he called *Huitserken* and *Blaaserken*,
White Shirt and *the Blue Shirt*, and soon
a headland which he doubled; and having
a spacious creek, he spent the winter on a
adjacent island. In the following season,
g his discoveries, he explored the continent,
delighted with the freshness and verdure of
. Contrasting this new country with the
ks of Iceland, he bestowed on it the flatter-
ellation of *Greenland;* and, on his return,
settlers to join him, by circulating the most
and exaggerated descriptions. With twenty-
sels he sailed back again; but of these only

fourteen reached their destination. This colo
soon augmented, by the arrival of other ad
ers, not only from Iceland, but from the O
and other islands planted by the Norwegia
the year 999. Leif, a son of Eric Rande, having
the court of Norway, was induced, by the
and earnest solicitation of King Olaf Tryg
embrace the Christian faith; and, carrying w
some monks, he found, through their mini
great difficulty in persuading his father and
of the settlers to forsake the rites of paganis

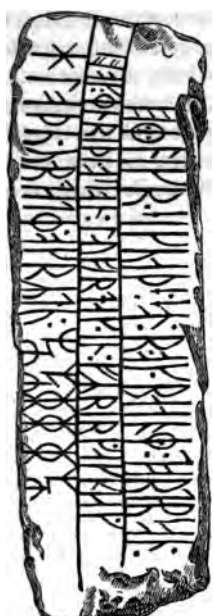
The first colony having extended itself a
coast to a wide frith, another settlement bey
boundary was established farther towards t
The former, called *Oestre Bygd*, or the
Settlement, is said to have included, in
flourishing state, twelve parishes and two c
and the latter, termed *Vestre Bygd*, or the
Settlement, contained four parishes. The
of Greenland were compelled to lead a life
ship and severe privations. They dwelt i
surrounded by mountains of perpetual ic
never tasted bread, but subsisted on the fi
they caught, joined to a little milk obtai
their starving cows; and, with seal-skins
tusks of the walrus, they purchased, from
ders who occasionally visited them, the
quired for fuel and the construction of thei

Combining the several circumstances to
seems clear that the original colony of G
began about the southern promontory, n
Farewell, and stretched along the coast in
westerly direction. Farther north, and
as high as the latitude of 60°, the second se

d.* For some centuries both of them
a sort of commercial intercourse with

monument has been lately discovered, that attests which the early Scandinavian adventurers pushed its to the most northern parts of Greenland. It is a ith Runic characters, found in 1824, planted erect in the Island of Kingiktorsoak, under the parallel of cription has been thus translated by Dr Rafn, Secre- yal Antiquarian Society of Copenhagen:—

ıtson, and Bjarne Thordarson, and Endride Oddson, e memorial-stones and cleared the place, on Saturday dag (*the 25th of April*), in the year 1135."



erprising settlers must therefore have, as early as the ury, come into communication with the Esquimaux of ica. Allowing for the difference of style at that epoch

Norway; but this trade became afterw
much reduced, in consequence of its being
an exclusive privilege of the Danish court
the year 1376, the natives of the country,
maux invaders, whom the Norwegian se
in contempt called *Skrœllings* or *Dwarfs*,
the western colony, which now claimed t
ance of its elder brother. The scanty po
however, was enfeebled by such repeated ala
that dreadful pestilence, termed the *Blac*
which raged over Europe from the year
1404, at last extended its ravages to Greenl
nearly completed the devastation. In ferti
the waste of the human species is alway
repaired; but poor and barren countries ca
recover from the depression caused by such
lamities. The colonies which occupied G

(being three days for every four centuries), the stone
on the 1st of May, at which time the ground seems to
covered with snow.

*For this curious notice the author is indebted to his
nious, learned, and amiable friend, Dr T. Stewar
Liverpool.*

But such was the scrupulous anxiety of the publishers
the most accurate information, that they stopped the pr
sult a gentleman in this country, deeply skilled in the I
Repp of the Advocates' Library,—who has obligingly fu
following reading of the inscription, with a translation
different:—

"Oelligr Siguathssonr ok Baaos Tortarson ok Oenri
Langardagin fyrir gagndag hlóthu Varda dis ok rytu."
last figures of the inscription are utterly unknown.)

That is, "Oelligr Sighwathson, and Baaos Tort
Oenrithi Osson, on the Saturday before *Gagndag** ere
vard's monument, and wrote this." (*And then the
characters.*)

* Gagndagr, in nominative, of which we have here the acc
Gagndag, were two holidays of the Catholic Church in Icel
was a *greater* and a *lesser*.—(Gagndagrin Meiri ok Minni.)
act time when they occurred, see "Finni Johannæi Historia
Islandiæ," under the word Gagndag in the Index, vol. iv.

appear to have languished near one hundred years afterwards, till they became finally extinct about the commencement of the sixteenth century.

But a notion has very generally prevailed, that only the western settlement of Greenland had perished, while the eastern was merely secluded from communication with the rest of the world by a vast barrier of ice, which had at length accumulated on its shores. The only question lately entertained was, whether these ill-fated colonists have survived the catastrophe, or have been suddenly entombed in ice and snow, as the unhappy citizens of Herculaneum were anciently involved in a dense shower of volcanic ashes. Tremendous stories are told of the east side of Greenland being now tenanted by giants and stalking ghosts. For more than a century past the court of Denmark has, at different times, despatched ships to search after its lost colony, which, evidently under the impression of superstitious awe, found it impossible to penetrate on that enchanted coast farther than Cape Discord, in the latitude of 61°. But in favourable seasons small boats can, without much difficulty, creep along the shore to a much higher parallel. If any settlers had ever occupied the narrow bays, they might surely have escaped either in their canoes or in sledges.

The supposed existence of a colony on the east side of Greenland is clearly a fable, originating in a misapprehension of the import of the designations applied severally to the two settlements. The one first made lay no doubt to the east, as well as to the south of the other; but the ships which resorted from Norway held a westerly course for them both. Between them a mutual intercourse appears like-

wise to have been maintained, which surely could not have taken place had they been divided by a chain of lofty and impassable mountains covered with eternal snow. Traces of those ancient settlements are besides observed, even at present, scattered along the western shores of Greenland, as low down as the latitude of 61°, though not corresponding altogether with the poetical descriptions of the Icelandic Sagas. Except the very slight remains of a church, the only vestiges now remaining consist of low naked walls, which had served as pens for sheltering the cattle.

It may be safely affirmed that the settlements which, during the last hundred years, the Danes have been forming at various points on the west side of Greenland, are more numerous and thriving than those which existed at any former period. They consist of twenty-one colonies, stretching over an extent of 800 miles. The first establishment is only a single family, occupying Bear Island, a little to the east of Cape Farewell. Ten other hamlets, composed chiefly of Moravians, are planted at different points, from the latitude of 60° to that of 68°. Three settlements are distributed round Disco Bay, about the latitude of 69°; and seven more have been extended thence as far as the latitude of 73°. So far, therefore, from the population having been extirpated by the increased severity of the climate, the truth appears to be, that the present establishments on the coast of Greenland extend ten degrees farther north than the ancient settlements at their most flourishing period. This advance of the colonies has been owing, no doubt, to the increased activity of the whale-fisheries, and to the circumstance of these

having been lately carried with success into
ktrait. But there is nothing certainly in
tory which betrays any radical or perma-
nge in the climate of the Arctic regions.
e continent of ice still remains, during the
er part of the year, to bar the access of the
to the Pole.

of life except that of shrinking when touched. Beyond the Arctic circle it increases in an extraordinary degree, and is eagerly devoured by the finny tribes of all shapes and sizes. By far the most numerous, however, of the medusan races are of dimensions too small to be discerned without the aid of the microscope,—the application of which instrument shows them to be the cause of a peculiar colour, which tinges a great extent of the Greenland Sea. This colour is olive-green, and the water is dark and opaque compared to that which bears the common cerulean hue. These olive waters occupy about a fourth of the Greenland Sea, or above twenty thousand square miles; and hence the number of medusan animalcules which they contain is far beyond calculation. Mr Scoresby estimates that two square miles contain 23,888,000,000,000,000; and as this number is beyond the range of human words and conceptions, he illustrates it by observing, that 80,000 persons would have been employed since the creation in counting it. This green sea may be considered as the Polar pasture-ground, where whales are always seen in the greatest numbers. These prodigious animals cannot derive any direct subsistence from such small invisible particles; but these form the food of other minute creatures, which then support others, till at length animals are produced of such size as to afford a morsel for their mighty devourers. The genus *Cancer*, of the same writer, or animals of the class *Crustacea*, appear to rank second in number and importance. It presents itself under the various species of the crab, and, above all, of the shrimp, whose multitudes rival those of the medusa, and which in all

feed and are fed upon. So carnivorous are ensities of the northern shrimps, that joints t by Captain Parry's crew from the sides of were in a few nights picked to the very nd nothing could be placed within their cept bodies of which it was desired to ob- skeleton. Many of the zoophytical and us orders, particularly *Actinia*, *Sepia*, and pecies of marine worms, are also employed ring and in affording food to various other

g the numberless tribes of living things people the northern seas, one order stands onspicuous. These are the *Cetacea*, compre- the largest of existing animals, and having re wholly distinct from every other species. h their home be entirely in the depth of the they have several features in common with er quadrupeds. They belong to the Lin- ass of *Mammalia*, or suck-giving animals; duce their young alive; their skin is smooth hout scales; their blood warm; and the flesh mewhat like coarse beef. They have a heart o ventricles, and lungs through which they and being unable to separate the air from er, as fishes do by means of their gills, they me to the surface in order to breathe. It is no means strictly scientific to call the whale yet he is entirely an inhabitant of the sea, a tail, though placed in a different position at of ordinary fishes, while his front limbs nore resemble fins than legs, and are solely for pawing the deep. Hence the vulgar, fol- a natural and descriptive classification, ob-

nearly on the crown of the head. These have been compared to natural *jets d'eau* throwing up water to the height of 40 or 50 feet; but the more careful scrutiny of Mr Scoresby ascertained that they emit only a moist vapour, and are neither more nor less than huge nostrils. When, however, this vehement breathing or blowing is performed under the surface, a considerable quantity of water is thrown up into the air. The sound thus occasioned is the only thing like a voice emitted by the animal, and, in the case of a violent respiration, it resembles the discharge of a cannon.

The tail is the most active limb of this mighty animal, and the chief instrument of his motion. It does not rise vertically like that of most fishes, being flat and horizontal, only four or five feet long, but more than twenty feet broad. It consists of two beds of muscles, connected with an extensive layer surrounding the body, and enclosed by a thin covering of blubber. Its power is tremendous. A single stroke throws a large boat with all its crew into the air. Sometimes the whale places himself in a perpendicular position with the head downwards, and, rearing his tail on high, beats the water with awful violence. On these occasions the sea foams, and vapours darken the air; the lashing is heard several miles off, like the roar of a distant tempest. Sometimes he makes an immense spring, and rears his whole body above the waves, to the admiration of the experienced whaler, but to the terror of those who see for the first time this astonishing spectacle. Other motions, equally expressive of his boundless strength, attract the attention of the navigator at the distance of miles.

ns, called by the French *nageoires*, and by
ing "swimming-paws," are placed imme-
ehind the eyes. They are nine feet long,
. by very elastic membranes, and provided
es similar in form and number to those of
an hand. Such is the spring and vitality
rts, that, if we may believe De Reste, they
to move for some time after being separated
body. According to Mr Scoresby, however,
e whale swims these organs lie flat on the
f the water, and are not at all instrumental in
g his motion, which arises entirely from the
e fins merely direct and steady the move-
d serve rather as a helm than as oars.
eriod of gestation in the whale is nine or ten
and the female brings forth in February or
She is viviparous; that is, the young come
e, not enclosed in an egg; and there is usu-
one at a time. These delicate nurslings, only
rteen feet long, and weighing little more
n, are watched over by the mother with the
ler care. The whalers strike these *suckers*,
re called, not on account of their own value,
er the assurance that the mother will start
heir defence. Then ensues a contest hard and
but commonly attended with a prosperous
she never seeks safety in flight. She rushes
boat, drags the line with extraordinary force,
nd fro with extreme agony, and suffers her-
e struck by repeated harpoons without at-
to escape; while the good-natured captain
iumphant feelings damped by the considera-
t his prize has fallen the victim to such an
maternal tenderness.—According to indica-

tions afforded by notches in the whalebone, which seem not, however, very fully established, the whale does not attain his full growth under twenty-five years, and is said to reach a very great age.

There is a considerable variety of whales. The *Balæna physalis* (*Balænoptera gibbar* of La Cépède), called by the sailors *razorback*, is considerably longer than the mysticetus; and, though his circumference be smaller, he is on the whole a still larger and more powerful animal. He is also swifter, swimming at the rate of twelve miles an hour; and Mr Scoresby has seen him, when struck with a harpoon, run off 480 fathoms of line in a minute. An individual of this species, found dead in Davis' Strait, measured 105 feet in length. He is, however, a dangerous species to attack; for, by the extreme rapidity of his motion, he often breaks the line, or obliges the sailors to cut it in order to escape destruction. Martens mentions a whale of this kind, which dragged a boat with its crew among loose ice, where they all perished. As this fish contains only ten or twelve tuns of oil, of an inferior quality, the whalers generally shun his encounter, unless when they are disposed for a daring adventure, or mistake him, as they frequently do, for a mysticetus. Besides the two pectoral fins, he has a horny protuberance or fin at the extremity of the back, which part of the body, instead of being round as in the mysticetus, rises into a narrow ridge. The *Balæna musculus* or broad-nosed whale, the *Balæna rostrata* or beaked whale, and the *Balæna boops* or finner, may be considered as razorbacks on a smaller scale, with certain specific distinctions. It is usually these smaller whales that frequent the

of Norway and Shetland, and sometimes their appearance in the British friths; but r they nor the physalis ever attract the atten- an experienced fisher.

only species, besides the mysticetus, which is ect of regular whaling operations, is the *cacha- kyseter microps*) or spermaceti whale. This occurs occasionally in the northern seas, espe- n the American coast, but abounds chiefly in ters bordering on the Antarctic zone, and is in object of pursuit in the southern fishery. chalot does not seem to have met Mr Scores- servation, although a male was thrown ashore ekilns on the Forth, as described by Sir Ro- bbald; but, according to the description of ste and others, this species is distinguished by row of teeth on the lower and none on the jaw; the back has a peculiar form, with a bunch behind: the tail is of extraordinary h. The cachalot appears in large herds, while sticetus, called by our fishers the *right* whale, rally found single. These bands very often t to two hundred, which are said to be mostly , under the guidance usually of a male of very limensions. To attack them is a formidable aking; but success is very advantageous, since twelve sometimes fall in one encounter. The and adventures of this fishery are described as exceeding belief; for which reason, it is to etted that Captain Day's modesty makes him recounting any of those which he witnessed. uantity of oil is much smaller than in the etus, not usually exceeding three tuns; but, ts being mixed with the substance called sper-

maceti, is far superior in value. The
oil, while warm, is fluid; but on bei
hot water it congeals into large flakes
yields also the peculiar aromatic su
ambergris, formed under peculiar cir
the rectum, and voided as fæces.

Another species, called the *narwal*,
feet long and eight in circumference, a
little from a small whale, except in a t
from his upper jaw, three to ten feet in
suggesting to the sailors the idea of a
cured for him the appellation of the sea
is swift, yet is taken without much
yields two or three tuns of very fine
phin, another cetaceous animal of poe
sionally occurs; and the grampus ap
numerous herds, guided by some of lar
beluga, or white whale, is also a smal
tinguished chiefly by its colour.

All the shores and borders of the A
crowded with huge amphibious races,
to form an intermediate link betwee
quadrupeds,—the *Mammalia* of the
of the land. Among these is to be dis
morse or walrus (*Trichecus rosmarus*
such a resemblance to our domestic qu
sailors, according to their various imp
given it the title of sea-horse or sea-
large, shapeless, unwieldy creature, 1
length, and from 8 to 10 in circumferer
small, the limbs short, of an intermed
between fins and legs. As a defence a
treme cold, these animals not only h
inch thick, covered with close hair, b

r *Cetacea*, a coating of oily fat, with which dies are completely enveloped. Thus cased, stretched on the ice in the depth of winter, suffering any inconvenience. The most re- le feature of the walrus, however, consists teeth or tusks, which project in a curved line e upper jaw, and are nearly two feet in They are of beautiful white bone, almost ivory, and much used in the fabrication of l teeth. The front face, when seen at a little bears a striking resemblance to the human; appearance is suspected to have sometimes e to the fanciful reports of mermaids seen orthern seas. Like all the cetaceous tribes, h the walrus is allied, he is disposed to be and harmless. Captain Parry describes the ecurity with which a number of them lay e, piled over each other, without discom- emselves at the approach of a party armed destruction. But they were doubtless not the deadly weapons with which man is while his physical aspect displays nothing ch they might not deem themselves fully to cope. In Spitzbergen, where they have the object of chase to the Russian hunt- are reported to keep very strict watch; aid that one stands guard while the others ven when sensible of danger, they are not o face it, but rather shun the attack by rush- th the ice, while those behind, with their ge forward their companions. Yet, when compelled to combat, they give battle with st coolness and courage; they then stand ach other, rush in one united body against

nce. They follow certain of their number larger
n the rest, called kings. These kings are held
uch respect by the Dutch, who studiously spare
r majesties, and even liberate them when found
he net, lest, deprived of this royal guidance,
nation should not find the way to their ac-
omed haunts. After emerging from the Green-
l Sea, this great army divides into two wings,
e right and largest bearing down directly
n Scotland; at the north-eastern extremity of
ch it forms that immense field wherein the
ch for so many years carried on their great na-
al fishery. They are now rivalled by the boat-
of Wick and Thurso. A detachment smaller
umber, but some of which attain to superior
llence, fills the western bays of Scotland, and,
ing along Ireland, reaches the neighbouring coast
rance. Meantime the left, or smaller wing, after
ing the Norwegian shore, has entered the Bal-

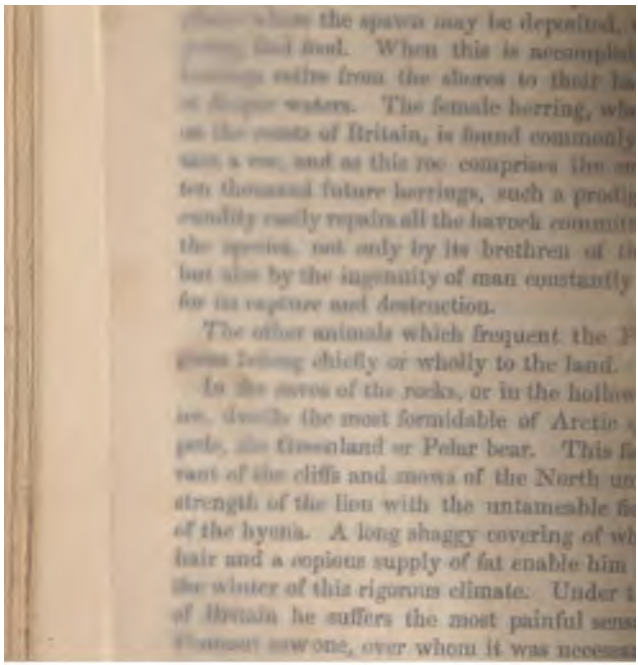
In July all these advancing divisions halt, and
n unknown impulse begin to retrace their course
ards their northern home. De Reste considers it
ain, that the herrings, in returning, have a ge-
l point of rendezvous not yet discovered; but
ould seem that only the actual discovery of this
ezvous can ascertain its existence. However,
t the end of September they reach their resi-
e beneath the ices of the Pole, where they re-
n three months,—all the rest of the year being
t in wandering over the face of the ocean.

uch is the theory of the annual appearance of
herring, which has been adopted without suffi-
t investigation by many popular writers. But
eeding observation has thrown doubts upon the

principle of Arctic migration, and referred the periodical appearance of the herring upon the coasts of Europe to the instinctive impulse which guides the finny tribes, at the season of reproduction, to places where the spawn may be deposited, and the young find food. When this is accomplished, the herrings retire from the shores to their habitation in deeper waters. The female herring, when taken on the coasts of Britain, is found commonly to contain a roe, and as this roe comprises the embryo of ten thousand future herrings, such a prodigious fecundity easily repairs all the havock committed upon the species, not only by its brethren of the deep, but also by the ingenuity of man constantly exerted for its capture and destruction.

The other animals which frequent the Polar regions belong chiefly or wholly to the land.

In the caves of the rocks, or in the hollows of the ice, dwells the most formidable of Arctic quadrupeds, the Greenland or Polar bear. This fierce tyrant of the cliffs and snows of the North unites the strength of the lion with the untameable fierceness of the hyena. A long shaggy covering of white soft hair and a copious supply of fat enable him to defy the winter of this rigorous climate. Under the heat of Britain he suffers the most painful sensations: Pennant saw one, over whom it was necessary from time to time to pour large pailfuls of water. Another, kept for some years by Professor Jameson evidently suffered severely from the heat of an Edinburgh summer. The haunt of the bear is on the dreary Arctic shores, or on mountains of ice, sometimes two hundred miles from land; yet he is not strictly speaking, amphibious. He cannot remain



der water above a few moments, and he reaches his ritime stations only by swimming from one icy gment to another. Mr Scoresby limits the swim-ng-reach to three or four miles; yet Parry found e in the centre of Barrow's Strait, where it was ty miles across. This bear prowls continually for prey, consisting chiefly of the smaller cetacea d of seals, which, unable to contend with him, n their fate by keeping strict watch, and plung-g into the depths of the waters. With the walrus holds dreadful and doubtful encounters; and that werful animal, with his enormous tusks, frequent-beats him off with great damage. The whale he es not attack, but watches anxiously for the huge ass in a dead state, which affords him a pro-ged and delicious feast: he scents it at the dis-ce of miles. All these sources of supply being pre-ious, he is sometimes left for weeks without food, l the fury of his hunger then becomes tremen-s. At such periods man, viewed by him always is prey, is attacked with peculiar fierceness.

he annals of the North are filled with accounts he most perilous and fatal conflicts with the r bear. The first, and one of the most tragical, sustained by Barentz and Heemskerke, in , during their voyage for the discovery of the -east passage. Having anchored at an island the Strait of Waygatz, two of the sailors land-nd were walking on shore, when one of them imself closely hugged from behind. Think-is a frolic of one of his companions, he called n a corresponding tone, "Who's there? pray off." His comrade looked and screamed out, ear! a bear!" then running to the ship, alarm-e crew with loud cries. The sailors ran to the

spot, armed with pikes and muskets. On their approach the bear very coolly quitted the mangled corpse, sprung upon another sailor, carried him off, and, plunging his teeth into his body, began drinking his blood as long draughts. Hereupon the whole of the small crew, struck with terror, turned their backs, and fled precipitately to the ship. On arriving there they began to look at each other, unable to feel much satisfaction with their own prowess. Three then stood forth, undertaking to avenge the fate of their countrymen, and to secure for them the rites of burial. They advanced, and fired at first from so respectful a distance that all missed. The purser then courageously proceeded in front of his companions, and, taking a close aim, pierced the monster's skull immediately below the eye. The bear, however, merely lifted his head, and advanced upon them, holding still in his mouth the victim whom he was devouring; but seeing him stagger, the three rushed on with sabre and bayonet, and soon despatched him. They collected and bestowed decent sepulture on the mangled limbs of their comrades, while the skin of the animal, thirteen feet long, became the prize of the sailor who had fired the successful shot.

The history of the whale-fishers records a number of remarkable escapes from the bear. A Dutch captain, Jonge Kees, in 1668, undertook, with two canoes, to attack one, and with a lance gave him so dreadful a wound in the belly that his immediate death seemed inevitable. Anxious, therefore, not to injure the skin, Kees merely followed the animal close, till he should drop down dead. The bear, however, having climbed a little rock, made a spring from the distance of twenty-four feet upon the captain, who, taken completely by surprise, lost hold of the

, and fell beneath his assailant, which, placing paws on his breast, opened two rows of tremen- teeth, and paused for a moment, as if to show ll the horrors of his situation. At this critical it a sailor, rushing forward with only a scoop, ded in alarming the monster, which made off, g the captain without the slightest injury.

1788, Captain Cook of the Archangel, when he coast of Spitzbergen, found himself sudden- ween the paws of a bear. He instantly called surgeon who accompanied him to fire, which ter did with such admirable promptitude and on, that he shot the beast through the head, elivered the captain. Mr Hawkins of the borpe, in July 1818, having pursued and struck a large bear, had raised his lance for a blow, when the animal sprang forward, seized y the thigh, and threw him over its head into ter. Fortunately it used this advantage only ct its own escape. Captain Scoresby mentions 's crew which attacked a bear in the Spitzber- a; but the animal having succeeded in climb- e sides of the boat, all the sailors threw them- for safety into the water, where they hung gunwale. The victor entered triumphantly, ok possession of the barge, where it sat quiet- it was shot by another party. The same mentions the ingenious contrivance of a sai- ho, being pursued by one of these creatures, down successively his hat, jacket, handker- and every other article in his possession, when ute pausing at each, gave the sailor always a n advantage, and enabled him finally to re- he vessel.

Though the voracity of the bear is such
been known to feed on his own species,
tenderness is as conspicuous in the femal
inhabitants of the frozen regions. The
ection which she will not make for the s
progeny. A she-bear, with her two cubs
ured by some sailors across a field of ice,
that, neither by example, nor by a peculi
action, she could urge them to the requisi
plied her paws and pitched them alternat
The little creatures, as she came up, t
selves before her to receive the impul
both she and they effected their escape.

Bears are by no means devoid of
Their schemes for entrapping seals, an
mals on which they feed, often display
ingenuity. The manner in which the
surprises his victim is thus described
Lyon:—On seeing his intended prey, h
ly into the water, and swims to a leew
from whence, by frequent short dives,
makes his approaches, and so arranges
that at the last dive he comes to the spo
seal is lying. If the poor animal attemp
by rolling into the water, he falls into
the bear; if, on the contrary, he lies s
strayer makes a powerful spring, kills
ice, and devours him at leisure. Some
disappointing to catch a bear, placed the no
under the snow, baited with a piece of w
The bear, however, contrived, three succe
to push the noose aside, and to carry off
hurt. Captain Scoresby had half-tame
which used even to walk the deck; but t

re always restless under this confinement, ily effected their escape. . .

ding to Pennant and other writers, the bear umbers in the great ice-mountains, where the long winter night, undisturbed by the e northern tempest; but this regular hiber- doubted by many recent observers. The s to be, that the males roam about all win- rch of prey, not being under the same ne- submitting to the torpid state as the black America, which feeds chiefly on vegetable t the females, who are usually pregnant e more rigorous season of the year, seclude s for nearly the entire winter in their dens. imals which belong entirely to the land, n herbage, are, in a climate covered deep for nine months in the year, necessarily n number and species. The rein-deer, a nt and useful creature, the standing inha- ll the northern lands, reaches nearly as far life can subsist. To the Laplander he is and in that climate he can always dig r the snow the moss or lichen, his fa- d. Even in the severer Arctic climates his summer excursions as far as men enetrated; but at the end of October the en earth allows him no longer to reach mple food in which he delights. They ible in large herds, and migrate to the From Melville Island they were even ng the frozen surface of the sea, to reach imate on the American shore. The people Arctic zone do not tame the rein-deer, or the sledge; it is not even for them the

staff of life; but it affords a favourite object of [illegible] mer chase, gives an agreeable variety to their [illegible] and yields their warmest and most valuable [illegible] ter robes. The fur-skin becomes always richer [illegible] more copious in proportion to the intensity of [illegible] cold, against which it forms the only, but a sufficient [illegible] defence. In the chase the deer fall easy victims, even [illegible] to the rude archery of the Esquimaux, being so [illegible] ple and curious, that if a man merely walks [illegible] from them, they follow. Some of these animals [illegible] joined Captain Parry's crews on Melville Island, played round them like lapdogs, and at setting out in the morning used to gambol by rearing on their hind-legs. The musk-ox, the only member of the bovine species which penetrates the Arctic [illegible] though in smaller numbers, affords a wholesome and agreeable variety of food. Its unwieldy form is protected from the cold by an immense profusion of hair, which envelopes its whole limbs and figure, and also by an interior layer of wool, that appeared to Pennant the finest he had ever seen, and made, he was told, stockings superior to the richest silk. This last, we suspect, is a temporary winter clothing.

The canine race affords several species which brave the most extreme severity of the Arctic cold, and remain after every other land-quadruped, except the bear, has taken its flight to the southward. Wolves, in considerable packs, continue still to [illegible] their prey in the utmost depths of the Polar winter. It seems difficult to discover what food they find at that season; but a regular pack attended the English discovery-ships, watching for whatever offal might be found exposed, and serenading them with nightly howlings. As if by a sort of tacit convention

did not presume to attack the sailors, but they
ced in the most daring manner to the sides of
hips, and sometimes even entered the huts of the
imaux, whose dogs they esteemed the choicest
; and very speedily devoured them. The natives
1 them by traps formed of little sheds of ice, at
e entrance is a portcullis of the same material,
ected in such a manner with the bait within,
, when the latter is seized by the animal, the
ullis drops, and the wolf is taken. Their te-
ty of life is such, as often, after apparent death,
me surprises and even dangers. The Arctic fox,
all beautiful white animal, with woolly hair like
le shock-dog, occurs in still greater numbers.
t a hundred were caught in Captain Parry's
d voyage, some of which were half-tamed and
e pets of; while others, by a harder fate, were
ed for table; and their flesh, somewhat resem-
kid, afforded an agreeable relief from the con-
use of salted meat.

e dog, however, is the most important quadru-
f the Arctic world, and the most valuable pos-
1 of its people, who have succeeded in taming
ndering it equally valuable for draught and
g. The dogs of the Greenlander, the Esqui-
and the Kamtschadale, are large, and of a
hat wild aspect. Captain Lyon describes them
mbling in form the shepherd's dog, rising to
ight of the Newfoundland, but broad like the
f; having short pricked ears, a furry coat, and
y tail. In general, they are observed to bear
g resemblance to the wolf, and the opinion is
revalent that they are neither more nor less
tamed wolves. Parry and Richardson both

mention instances in which domestic dogs
duced away by the attractions of female
yet the avidity with which the wolf devo
his supposed tame brethren, does not seem
dicative of so close an affinity. Nature,
vident care, defends them against the cold,
by a profusion of long hair, but by a soft d
vering, formed beneath it at the commen
winter, and shed at the approach of a mild
The Esquimaux are much reproached for t
treatment of these valuable servants; yet i
they are used with tenderness, the women
ing the young puppies into bed, and feed
from their own mouths. As soon as they
they are yoked to a small sledge; in end
to shake off which incumbrance they learn
it. Severe and frequent beatings, howeve
cessary to train them for acting as a regu
But their most severe privation is in food;
during the season of scarcity, they obtain
barely sufficient to maintain life, and not
prevent them from falling into a state
meagre and debilitated. Their hunger is
ed by the nature of the substances wit
they sometimes seek to assuage it. Capt
saw one which ate a large piece of canva
ton handkerchief laid out to dry, and a
a linen shirt. The Esquimaux, we must
are subject to severe scarcities, and the fo
dogs being the same with their own, the an
such emergencies, can scarcely expect to
on a footing of equality. This rough usage
seem incompatible with a measure of soli
ment to these valuable servants. The na

to sell them to the English, till assured that would not be killed. They rejoiced greatly to house built for them; and at every visit a ly recognition took place between the dog and d master. When the animals are yoked in the , a whip of twenty feet long enforces obedience, peculiar cries indicate the right or left, to turn stop. Three dogs could draw a sledge weigh- 00 lbs. at the rate of a mile in six minutes, ne leader has drawn 196 lbs. the same distance ht minutes. A full team, however, comprises or ten dogs; though seven have drawn a full at the rate of a mile in four minutes and a while nine, employed in conveying stores from ecla to the Fury, drew 1611 lbs. in nine mi- . Captain Lyon reports most favourably of am which he himself formed, that used to draw rom ship to ship, a mile distant, in the deepest ess and amid clouds of snow-drift, with the perfect precision, when he could not have found vn way for a hundred steps. Their services in ng are also of great value; they can snuff the n his hole, or the deer on the mountains, from prising distance. Assembled in packs, they face the Polar bear, keeping him at least at bay till masters come up with spears to the attack.

ie air in those dreary regions is, almost as much e waters, peopled with its appropriate inhabit- which fill it continually with sound and life. , too, the species are nearly all different from that wing their flight through the temperate . They do not shine with the bright hues of humming-bird, nor breathe the soft notes of the tingale, nor do they charm the air with the rich

melody of our woodland choirs; but the au
petrel, and the gull, clustering in myriads,
all the rocks and shores of the North to ech
their wild clang. They are almost all rap
and carnivorous; the vast collections of she
and marine insects with which those seas ab
and the carcasses of the huge animals th
killed, either in conflicts with each other or
man, affording them an inexhaustible supply
triment.

The fulmar, or petrel (*Procellaria glacia*
the close attendant of the whale-ships in every
of their progress. Termed emphatically the
storm, it faces the northern tempest when
with its utmost fury, and seats itself on the ag
crest of the mountain-wave as calmly as if
on the surface of an untroubled lake! It f
with one uniform object,—that of snatchin
feasting on portions of blubber. As soon as a
is fastened to the side of the ship, and begins
cut up, an immense muster takes place, some
exceeding a thousand, all stationed in the
watching for the fragments which are waf
leeward. The peculiar chuckling noise by
they express their eager expectation, the vo
with which they seize on the fat, and the huge
sels which they swallow,—the envy shown to
that have obtained the largest of these delicate
sels, and often the violent measures taken to
it from them,—afford to the sailors curious and
ing spectacles. The surface of the sea is some
so covered with them, that a stone cannot be th
without one being struck. When an alarm is
innumerable wings are instantly in movement

the birds, striking their feet against the water to aid their flight, cause a loud and thundering plash.

The petrel, however, does not enjoy alone this delicious ocean-festival. It is sought with equal avidity by the various species of the *Larus* or gull —the Arctic gull, the kittiwake, and the snow-bird (*Larus eburneus*), which last excites admiration by its pure and beautiful white; but the elegance of its taste does not correspond to that of its appearance, fat blubber being its choicest luxury, while it utters a loud and disagreeable scream. But all these ravening tribes of the northern sky have a terrible rival in the glaucous gull (*Larus glaucus*), which equals in rapacity and surpasses them all in power and strength. In consideration of this, the Dutch have invested him with the title of *burgomaster;* but that sage magistrate uses, we trust, his power in a very different manner from his winged representative, who employs it solely in wresting from the weaker species whatever he sees them possess, and esteems desirable. He is usually hovering high in the air, or seated on the loftiest icy pinnacles, whence, having fixed his eye on a delicious morsel, he darts down on the possessor, which, whether fulmar, snow-bird, or kittiwake, must instantly resign the coveted prize. Happily for these races the burgomaster species is very small in number, compared to the multitudes over whom he tyrannizes.

The genus *Anas,* comprehending the swan, the goose, and the duck, large, useful, and often beautiful birds, traverse in vast flights all the northern seas and waters. Like the rest of the *anseres,* they have all webbed feet, consisting of branching toes connected by a membrane, which enable them to

move with equal facility on the water as on land. The swan, with its stately plumage, frequents chiefly the inland seas and lakes, of which it has been called the peaceful monarch. The goose, a less elegant but more useful species, migrates in vast numbers every spring to breed on the Arctic shores and islands, and affords a valuable supply of food to all the northern settlements. The Hudson's Bay Company salt three or four thousand annually for winter. The Indians reckon the month of their arrival under the title of the goose-moon. Migration during the rigorous season, resorted to even by quadrupeds, becomes the still more natural resource of the feathered creation. Even in September the flocks of geese, winging their way to the southward, supplied a warning to Captain Franklin of the winter that was hastening upon him.

The duck reaches a still higher latitude than the goose, and endures still severer cold. Great flocks of that species called the eider arrive in spring on the most northern shores of Greenland. All the birds that fly over the frozen seas are provided by nature with a rich and ample plumage, and a lining of soft down beneath; and the people of these countries find the skins of birds with the feathers inside, to be one of their most comfortable articles of clothing. But the down of all the known species of birds is surpassed in fineness by that of the eider, the delicious softness of which fits it for the couch of kings. A pound of eider-down, according to Sir Charles Giesecke, is usually sold for a pound sterling. The finest is that which the birds pluck from their breast to line the interior of the nest. The Greenlander, watching his time, removes this pre-

ining as soon as it is completed, whereupon or animals form a second, destined to share ne fate.

ong other Arctic birds are the terns, which on nerican coast are so very numerous, that an has been named from the immense flocks hich it is annually filled. They produce the elicate eggs of any water-bird. We may add *lymbus* (guillemot), whose skin affords a pe- y comfortable clothing,—the *Tringa* (sand- —the *Charadrius* (plover),—the *Tetrao* and ptarmigan), of which a species, much on account of the delicacy of its flesh, oc- the interior of Greenland. All ptarmigans their colour, from mottled gray or brown in r to pure white during the winter months. ing to De Reste, the dark summer-covering at the end of autumn, and a new plumage out, which is white, till darkened by the h of the following spring—or, to speak more ely, a partial moult takes place in autumn, which all the coloured feathers are thrown d their places supplied by white ones; while ng most of these white plumes are again cast, e room for others adorned by the richer and aried hues of summer. Captain Parry saw t change go on so rapidly among the grouse on le Island as to be perceptible from day to day.

vegetable world does not, in this dark and oundary of the earth, possess such an import- d commanding character as the animal. Na- ithout departing wholly from her system and ould not clothe with verdure and vegetation

a soil which for nine months of the year is frozen as hard as rock, and covered with snow many feet deep. The plants of more genial climates, indeed, when inserted during the short and bright summer, spring up and wear for some time a promising appearance; but they are all nipt by the untimely winter. Still, Nature, in the northern regions, especially in those approaching the Arctic zone, does employ resources similar to those by which she cherishes animal life. The fir, the pine, and other trees of these climates, on being pierced, distil, not the balmy and fragrant gums of Arabia and India, but rich, thick, coarse juices, by which their interior heat has been preserved, and which, in the shape of pitch, tar, and turpentine, serve many valuable purposes of commerce. Through the cherishing influences of these juices, the lakes of North America are bordered with tall dark forests, which afford to the agricultural countries an inexhaustible supply of valuable timber. Even their gloomy foliage, while the forests of the south are every autumn strewing the ground with their faded leaves, brave through the winter all the fury of the northern tempest. Before reaching, however, the inclement sky of the Arctic boundary, this magnificent growth decays. Trees that had been the pride of the forest dwindle into meagre and stunted shrubs. Beyond the Polar circle, these monarchs of the wood, if they appear, rise only to the height of a few feet, throwing out lateral branches. On Melville Peninsula, dwarf-willow and the *Andromeda tetragona* almost alone afforded to the Esquimaux a scanty supply of wood for their arms and utensils. Considerable quantities of drift-timber are, however,

uently found along many of the barren shores he Arctic regions, supposed to have floated ori- lly from the mouths of the Siberian and other hern rivers.

he plants which abound most in these dreary ates belong to the tribes of mosses and lichens, *Cryptogamia* of Linnæus, the *Acotyledones* of ieu. The meagre vegetation with which the tic surface is covered, thus appears rather as if ere an exudation from the rocks than the pro- : of the soil. Yet the moss and lichen, which ı the prevailing features, are not only copiously luced, but possess a nutritious and salutary qua- not displayed in more fortunate regions. One ies of lichen (*L. rangiferinus*, Linn.) forms, as ere, the main staff of life to the Laplander; it orts the rein-deer, and the rein-deer supports

The lichen of Iceland, boiled in soup, or even erted into bread, is to the natives a substantial of their subsistence. Farther north, where the h of the snow, and the continuance of frost, drive nhabitants to the shore and to animal food, these tables still afford support to the deer and to the r quadrupeds which they use as food. It is even a peculiar species of moss that they trim their s. The *fungus* or mushroom, which draws nour- ent without the aid of a proper root,—and the s or ferns, which consist only of one spreading the middle rib of which forms all their stalk, e their slender roots spread under the ground,— : find the means of existence even in Greenland. ıe order *Algæ*, and especially the tribe of *Fuci*, ɔrehending nearly all the variety of marine bo- , grows in vast abundance on the northern

shores. These rude plants, which have little o distinction of stem, root, or leaves, and whose f tification is often included within the substan the frond, cover the Greenland coast with subm meadows. The *Confervæ*, too, another divisi the same order, with their numerous filam spring up in profusion.

A few plants, not belonging to this imperfe der of vegetation, embellish, during the short mer gleam, the northern fields. Under the l influence of the sun at this season, indeed, so the most beautiful among the floral tribe e their petals. The ranunculus and anemone d their rich and varied tints; several species of frage put forth their flowers; and the yellow has even a gaudy appearance,—so that the *Papaver*, which enriches the plains of Indost among the last to expire under the snows Pole. The nobler fruits do not ripen unde ungenial sky; yet shrubs producing deliciou ries appear, on the borders at least of the Arcti in matchless profusion. The northern Indian sider the fruit of a bush called the *Aronia ov* the most delicious food; besides which they the strawberry, raspberry, red whortleberry various others. Several of these are covere neath the first snows of winter, which are su to mellow them, and, when dissolved by s show the berries still hanging on the bra while the buds of all the others are bursting, whole producing a delicious impression unkno those who have not witnessed the desolation th mediately preceded.

These bleak climates enjoy a precious boon

which act as an antidote to scurvy, and which
e most severe cold of the Arctic zone. The
ria, a thick-tufted juicy plant of extreme
ty, is emphatically called *scurvy grass*; and
erent species of sorrel, especially the *Rumex*
, were found by Captain Parry flourishing
he snow at the very farthest limit of vege-

xtraordinary phenomenon of *red snow*, ob-
y Captain Ross and our other Arctic voy-
aturally excited the greatest interest both at
d abroad. This singular aspect of a sub-
with which we never fail to associate an idea
urest and most radiant whiteness, has been
ed to result from an assemblage of very mi-
getable bodies, belonging to the class of cryp-
plants and the natural order called *Algæ*.
m the species named *Protococcus nivalis*
dh, which is synonymous with the *Uredo*
of Mr Bauer. This plant seems by no means
to the Arctic snows, but occurs on lime-
cks in the island of Lismore in Scotland, as
among the Alpine and other countries of
Saussure observed it so long ago as in the
60 on Mount Breven in Switzerland, and so
tly after that period, that he expresses his
at its having escaped the notice of Scheuch-
other learned travellers. Ramond, whose
tions so beautifully combine the precision of
with the perception of the picturesque, found
w on the mountains of the Pyrenees, as did
rfeldt, the botanist, on those of Norway. In
r 1818 vast masses of the same substance
ead both the Apennines and the Italian Alps;

and it is recorded, that ten years prior to
riod the vicinity of Belluno and Feltri wa
to the depth of twenty centimètres with ro
ed snow.

According to Captain Ross, the Arctic r
on which he observed the red snow are a
feet high, and extend eight miles in leng
depth to which the colour penetrated has
riously stated by different observers. So
that it descended many feet beneath the
while others never ascertained that it sprea
one or two inches. There is no reason t
that the colouring matter itself, as well as
is a meteorological product, although Huml
tainly mentions a shower of red hail whi
Paramo de Guanacos, in South America.
is no doubt essential to the production of t
as it is to that of all the other algæ; but, w
formed, it seems to possess the power of
and increasing vegetation, even over rocks a
with only an occasional supply of fluid.
pagation of minute vegetable forms, like th
of animalcules, is effected, under favourabl
stances, with a rapidity of development t
nishing; and the most probable conjectu
to be, that snow is not the natural situati
Protococcus nivalis, but that, from its grea
of life, it not only preserves its vitality on t
and ungenial surface, but, during the part
ing of the snow, continues to increase and
If such be the case, it is easy to suppose h
expanse may be covered with this red suffu
ring the dissolving and occasional flowin
snowy waters. When once established a

al snows of the North, it becomes more nume-
than the sands of the ocean; and, increasing
nsity from year to year, at last presents to the
ished and admiring navigator a sight more sur-
g in its reality than any of the fabled wonders
Arabian tale.

ingular coincidence has been observed by bo-
s to exist between a white ground and a red
r. Thus the rich and brilliant variety of *An-
vulnaria* is only found on a chalky surface;
many of the higher orders of flowering plants
a decided tendency to produce red-coloured
when they happen to spring up on white
one. "How much more forcibly then," says
lh, "must this law operate upon plants like
ge, in which colour is an essential part." That
of light produces the peculiar, or at least pre-
g colour of the snow-plant, may be said to be
strated by this singular fact, that the red co-
radually changes to green as it occurs more or
cluded from the action of light among the fis-
of rocks, or beneath the hollows, or under-sur-
of stones. This being the case, it will appear
ss incomprehensible that the same plant which
duced amid the snows of the Arctic regions,
highly-elevated Alps of more southern coun-
should be occasionally detected, even during
eats of summer, covering the brilliant white
one of the plains. In the last-named locality
s discovered by the Baron Wrangel in the
ce of Nerike, and named by him *lepraria
sina*; and the two supposed species have been
ascertained to be one and the same.

concluding our notice of this singular subject,

we may observe, that when the warmth of the returning sun has partially dissolved the surface of the snow, and thus contributed to the formation and development of these microscopical plants, the vivifying power of the solar light, aided by some peculiar and as yet unknown property belonging to the natural whiteness of the snow itself, is highly influential in the production of the beautiful colour by which they are distinguished.*

* Mr Scoresby conjectured that the red colour of the Arctic snow derived its origin from innumerable multitudes of very minute creatures belonging to the order *Radiata*. He had frequently observed the ice to be tinged with an orange colour, obviously resulting from an assemblage of small transparent animals of about the size of a pin's head, resembling the *Beroe globulosa* of Lamarck. Other observers have thought themselves authorized to trace the red colour to the dung of the little auk (*Uria alle*), which abounds on many of the barren shores of the North. But neither of these supposed causes could produce the phenomenon alluded to, as observed among the central Alps of Europe, where marine radiata and little auks are alike unknown.

CHAPTER III.

Ancient Voyages to the North.

ge of Pytheas—Norwegian Expeditions; Ohthere—Colonization of Iceland—The Zeni—Quirini.

i voyages to the North, undertaken prior to the t era of maritime enterprise and the invention he compass, were few in number, and scarcely nded into those circumpolar regions which form pecial subject of the present volume. It will ough, therefore, to take a rapid sketch of the by which discovery proceeded towards these le and almost inaccessible quarters.

e Mediterranean, the shores of which consti- the first civilized portion of the West, was the er where European navigation originated. As situated in the depth of that sea, was the t seat of commerce, Carthage, the daughter of was doubtless the first state which undertook tensive discoveries upon the ocean. These, er, were shrouded in deep mystery, prompt- the jealous and monopolizing temper of this , once so powerful and opulent. The classic s give only some slight and detached notices voyage of Himilco, who appears to have sailed the exterior coasts of Spain and France, and e reached the southern extremity of Britain. was probably only the first of a series of voy-

ages carried on with the view of procuring th[illegible] a metal rare and valued in those days. The Cas[illegible]ther terides, or islands of tin, which appear to be Cor[illegible]lt thr[illegible] wall and the Scilly Isles combined together, and [illegible]which mysterious and celebrated name among the prim[illegible]ns ha tive authors of Europe. [illegible]adve

The most distinguished of the Greek navigato[illegible]whetla to the North was Pytheas, a citizen of Marseilles, [illegible]any n commercial Greek colony, which, favoured by [illegible]ded, situation, had become the chief emporium of th[illegible] had commerce of Britain, already of some importan[illegible]ad th This commerce, however, was carried on, not [illegible]ake hi the ocean, but by a land-carriage through Gau[illegible]rthest Pytheas seems the first who, inspired by native [illegible]owever intelligent curiosity, endeavoured by a mariti[illegible]se of route to reach the British coast, and to penetrate t[illegible]ulcela the remotest extremities of the North. Our know[illegible]have ledge of this voyage is indeed imperfect, since it [illegible]ught almost entirely due to Strabo, who, while he relat[illegible]on i it, derides the whole as a palpable forgery; yet th[illegible]last very particulars on which he founds this charge [illegible]w i far to establish the contrary. Pytheas appears t[illegible] have passed the Straits, and sailed along the weste[illegible] coasts of France and Spain, which, from previou[illegible] misconception, he confounds together. Thence h[illegible] seems to have directed his course through the Eng[illegible] lish Channel, and along the eastern coasts of Eng[illegible] land and Scotland, till he reached the northern e[illegible] tremity of the island. Not content with this achieve[illegible] ment, he continued to sail onwards into the depths of ocean, till in six days he arrived at Thule, an island where it appeared to him that perpetual light reigned at midsummer through the day and night. Immediately beyond, his progress was arrested by

barrier of a peculiar nature, by something which was neither earth, air, nor sky, but a compound of all the three; forming a thick viscid substance, through which it was impossible to penetrate. These statements have afforded much advantage to the sceptical adversaries of Pytheas; yet the summer days of Shetland are really very long, and the thick and gloomy mists, with which the Northern Sea is often loaded, might make a peculiar impression on one who had ventured into this unknown ocean so far beyond the limit of former navigation: they might make him prone to believe that he had arrived at the farthest boundaries of nature. It seems difficult however to suppose, with Bougainville, that the voyage of Pytheas should ever have extended as far as Iceland; but in another direction he appears to have penetrated to the Baltic, and also to have brought home some correct accounts of its shores, then known to the people on the Mediterranean almost solely by the qualities of the amber which was imported from thence.

The voyage of Pytheas, though apparently quite authentic, did not lead to any change in the channels of Massylian trade. It was found probably both cheaper and more commodious to transport the productions of Britain through Gaul, than to convey them by means of such a lengthened and perilous voyage. The only farther additions to ancient knowledge respecting the Northern Seas were made by the Romans, who, in order to conquer, were obliged to explore the earth. Agricola, before undertaking the campaign which was to reduce Scotland into a province, sent fleets to explore its most northern shores and bays. The Romans, however, never appear to

have sent naval expeditions, having discovery alone in view, to the North, or perhaps to any other quarter. Their delineation of Scotland itself is excessively rude; and though they had traced the shores of Europe eastward as far as Russia, Scandinavia appeared to them only as a cluster of large islands in the North Sea.

In the decline of the Roman empire, that country, formerly almost unknown, became the seat of a most formidable and extensive naval power. Norway, under the terrible dominion of Harold the Fair-haired, Denmark, under Gorm and Canute, sent forth fleets which pillaged all the maritime territories of Europe, and reduced many of them to temporary or even final subjection. Their expeditions, however, were *from* the North, not *to* the North. Their objects were not science, but ravage and conquest. The Runic tribes, indeed, were not without some tincture of letters and poetry; but their *sagas*, or poetical chronicles, celebrate only the exploits of their mighty sea-kings and rovers, not any theme connected with commerce and the arts of peace. Yet a communication with these tribes enabled Alfred, an illustrious monarch, who shone so bright in that dark age, to collect information respecting those extremities of the earth which had remained unknown to the Greeks and Romans. Ohthere, a chief who had come from the upper tracts of Norway, afforded some intelligence even respecting a voyage undertaken along the Arctic shores of Europe.

Ohthere was considered a rich man in his own country, being owner of twenty oxen, twenty sheep, and six hundred tame rein-deer. Fired by a spirit of liberal research, he undertook a voyage to discover

regions that lay to the north of the high lati-
in which his domain was situated. He sailed
days in that direction, which appears to have
t him to the North Cape, the farthest point
ape; he then turned three days towards the
and afterwards five days to the south. All this
the land on his right was desolate, traversed
by a few wandering shepherds and hunters of
race. Then, however, he reached a large
; the opposite side of which was somewhat dense-
habited by the Biarmians, or people of Northern
, who showed such a hostile disposition as
him to return. The fishery of the horse-
(walrus) was found to be carried on here with
advantage that many were afterwards induced
low the same course. Forster delineates the
gation of Ohthere as reaching to the interior of
White Sea; but we do not think the period of
days from the North Cape could have carried
farther than the river Kola, which agrees also
the supposition of his having been arrested on
frontier of Russian Lapland.

The direction in which the Northmen sought rich
kingdoms to plunder and to conquer was always the
south. To quit their bleak regions in search of others
still more bleak, would have been wholly foreign to
their views; yet, as the sea was covered with their
ships, chance and tempest sometimes drove them in
that other direction. In 861, Nadodd, during a pi-
atical excursion, unexpectedly discovered Iceland.
This country had little to tempt a nation of free-
booters; yet so it chanced that there existed mate-
rials for its colonization. Harold, in making him-
self master of all Norway, had crushed the rights

and sway of numerous petty chieftains, and had thus created a large body of malecontents. He was willing to grant, and they to accept, a permanent refuge in this frozen clime. Numerous bodies of emigrants proceeded successively to Iceland, where they were organized into a free and independent community. They even crossed to the opposite coast of Greenland, and formed settlements, which for some time were tolerably flourishing, though they have since either perished or lost all communication with Iceland. During the eleventh century, however, chance or enterprise led Greenland navigators southward to another coast, which they called Vinland, and which has been very generally believed to be America itself. After a careful examination of the authorities on which this opinion rests, we have been led to suppose that the new country was merely a more southern point of Greenland. The limits of the present work, however, will not admit any detailed account of these settlements.

The republican cities of Italy, during the middle ages, rekindled the ancient spirit of commerce and navigation, which they raised to a degree of prosperity, equalling probably that attained by Tyre and Carthage during the height of their ancient glory. These cities reached a measure of power and opulence which enabled them to rank with the greater kingdoms. Their trade, however, lay chiefly within the Mediterranean, especially its eastern border, whither were brought overland, or by the Red Sea, the commodities of India. Few were disposed to quit this bright and golden track to face the tempests of the ocean and of the North; yet were there not wanting a few adventurous spirits who under

nd were able to penetrate into these remote

olo Zeno, an eminent and noble merchant of
, undertook, in 1380, a voyage to Flanders,
which a tempest drove him upon a coast
e calls Friesland. The position of this un-
shore has been a subject of controversy; and
ave even had recourse to the hypothesis of
ing been since swallowed up by the ocean.
however, we find that Friesland was in fact
r of islands, to which are applied the names,
Broas, Bres, Iscant, easily converted into
rassa, Unst, we may conclude with Forster
s probably one and the same with the Shet-
es. Zeno being cast ashore in a state com-
destitute, was received with great kindness
Prince Zichmni, whose name seems to be a
on of Sinclair. Finding Zeno eminently
n naval affairs, he reposed the highest con-
in him, and placed under his command
expeditions. So pleased was the Vene-
h the favour of this northern potentate, that
ed his brother Antonio to join him. The
'age, however, which seems to have carried
to the north, was one to Greenland, and he
somewhat romantic account of a religious
ment formed in that country. The convent
t on the side of a hill, whence burst a copi-
ng spring, whose waters enabled the monks
ish all the evils of the climate; when spread
rozen soil, they applied it for the production
ost useful herbs and culinary plants; when
ed into the houses, they warmed with it the
nts, and cooked the victuals. They were

likewise supplied from the country with abundance of fish, rein-deer, and wild-fowl; and vessels from Norway brought to them the luxuries of life. Zeno undertook other voyages in a different direction, which have even been supposed to reach as far as America: but we incline to think that the passages which have suggested this conclusion are partly misunderstood and partly interpolated.*

Quirini, another Italian nobleman, in 1431, undertook a similar voyage, and was driven by a similar tempest on the coast of Norway. The southern mariners arrived in the most miserable plight, having lost the ship and been obliged to take to their boats, after the greater part of the crew had perished of hunger, cold, and especially thirst. They were thrown first on a small uninhabited island, where, having erected two tents, and found a large fish, they contrived to support life. After some days, a fisherman and two boys came in a boat to the island, and were at first terrified by the sight of the strangers; but, by courteous address, were soon prevailed upon to take with them two of the sailors, Gerard of Lyons and Cola of Otranto. They rowed to a village on the neighbouring island of Rost, where they met the kindest reception. As it chanced to be Sunday, the priests exhorted the congregation to afford all the assistance in their power to these unfortunate strangers. Six boats were fitted out, the appearance of which dispelled all the fears of Quirini, and filled him with joy. The chief native now gave a cordial welcome, and having set before him some rye-bread and beer, invited him to the

* A learned writer views the whole narrative as a complete forgery; but this we should be rather inclined to doubt.

ıs on the island. The Italians were there and treated with uninterrupted kindness ıtay of three months, in which time they ŋ recovered from all their distress and fa- he natives of this little island, about 120 ; subsisted on stock-fish, which they dried d to the market of Bergen, where pur- ived from Germany and other countries; a-fowl, which in vast flocks covered all ıding rocks, and even built on the sides es. Many of these birds were so tame ı the natives walked up to their nests, wont to step off, allow two or three eggs n, and then resume their seat. The ; most strict in their attendance on re- es, and carried their resignation to the ıvidence so very far that they rejoiced, nes even held a festival, at the death of ons. The Italians, accustomed to the southern jealousy, were extremely sur- ;e all the members of a family sleeping one apartment, which they themselves ted to share without the remotest feeling iety. In summer, both sexes walked e nearest pool, and bathed promiscuous- rfect innocence, and without awakening ın,—a practice indeed which pretty ge- ls in the northern countries of Europe nt day.

mer having arrived, Quirini took occa- ıith the annual ship to Drontheim, and, hence by land to Sweden, he found a d for Rostock, in which he finally re- taly by way of England.

CHAPTER IV.

Voyages in Search of a North-East Passage.

Rise of Maritime Enterprise in England—Plan of a Northern Passage to India—Expedition of Sir Hugh Willoughby; its Loss—Chancellor reaches the White Sea; Journey to Moscow—Voyage of Burroughs—Of Pet and Jackman—Dutch Expeditions—Barents's First, Second, and Third Voyages; His Death and Discoveries.

THE latter part of the fifteenth century may be fixed upon as that period in the history of the world when maritime discovery proceeded on the greatest scale, with the most splendid results and the most extensive influence on the condition of mankind. Travellers and navigators of the present day have undertaken an enterprise which nothing could exceed; but these remained for their efforts only the dark and distant boundaries of ocean, or the interior of barbarous continents. Of the contrary, vast kingdoms, new worlds, regions teeming with unbounded wealth, rewarded the daring genius of Gama and Columbus. A new direction was given to human ambition and industry; and the discovery of distant regions became not only a commercial speculation with individuals, but a grand object of national policy.

England, one of the most powerful kingdoms of Europe, had always shown herself ready to embark in every scheme of utility; yet she was not al-

r ripe for these extensive undertakings. The
of southern Europe were then nearly a cen-
advance of those ruder states which lay be-
e Alps and the Pyrenees. Venice, Genoa,
Lisbon, not London or Amsterdam, were
schools of commerce and navigation. The
ıd ideas of the feudal system, its proud in-
ınd contempt of mechanical pursuits, were
he course of being gradually superseded;
nercantile interest possessed as yet only a
re of that pre-eminent importance to which
ce attained.

VII., amid these unfavourable circum-
ınd with nothing of the heroic or adven-
his composition, yet possessed qualities
ıbled him to appreciate the importance of
undertakings. Every thing which af-
y promise of filling his coffers was conge-
e taste of that monarch; and for this rea-
ıowed himself ready to meet the aspiring
Columbus with greater promptitude than
monarch of the age. That great naviga-
vain solicitation at the courts of Spain and
sent his brother Bartholomew to make
ns to Henry, which were very readily ac-
ut before his messenger returned to Spain,
, under the auspices of Isabella, was al-
sing the Atlantic. It was afterwards with
ınction and favour of Henry, though not at
e, that John Cabot, in 1497, made that im-
oyage in which he discovered Newfound-
ıland which, though not fitted for culture,
ıe the well-known seat of the greatest
the world. He was also the first Euro-

pean who came into contact with any pa
mainland of America. That prince, in 1
minded to Cabot the means of fitting out an
petition, which appears to have been cond
his son Sebastian. He subsequently granted
ard Warde, Thomas Ashehurst, and John
merchants of Bristol, in conjunction with
tives of Portugal, letters-patent, to unde
discovery of lands and regions unknown
result of their expedition is not recorded.

Notwithstanding these proceedings, En
not yet thoroughly imbibed the true spi
ritime enterprise. It had been kindled a
shrine, and when deprived of external su
dually languished. This flame became
tinct during the long reign of Henry VI
prince, full of bustle, needy of money, a
void of intelligence, might have been supp
prompt to embark in such enterprises; bu
in so many disputes, domestic and theol
studying, though with little skill, to ho
lance between the two great continer
Charles and Francis, he was insensible t
and advantages to be derived from mari
ditions.* Sebastian Cabot, in order to

* This passage has drawn forth the indignation of
(Memoir of Sebastian Cabot, Lond. 1831), who repres
of this department of the work, in conjunction with
predecessors, Robertson and Forster, as wholly disre
evidence which strikingly evinces the earnest and conti
of Henry VIII. in reference to this project" (p. 261).
research has only proved that this prince, in the cour
thirty-eight years, while all Europe was filled with the
maritime discovery, fitted out two expeditions, both
compliance with very urgent representations. Mr Th
English promoter of naval discovery, entirely concurs
he says to Henry, in a letter written during the eigh

nent, was obliged to quit England and repair
ain, where he was received with much favour,
pent the greater part of his life, either in at-
s at discovery, or in a quiet residence at Se-
where he was consulted and revered as a nau-
racle.

er a long slumber, the maritime genius of
nd was suddenly roused. It burst forth un-
young prince of high hope and promise. In
the sixth year of the reign of Edward VI.,
rchants of London, among whom are said to
een "men of great wisdom and gravity,"
udden and extreme ardour in the cause of
y. There chanced at that critical moment
1 London no less a person than Sebastian
With him the merchants entered into deep
tion, and in conjunction with him formed
:ral plan of a voyage, having in view to
r way of the north and north-east, the opu-
celebrated regions of India and Cathay.
acles to such an undertaking could not yet
appreciated. No just idea could at that
ormed of the immense breadth of Asia, its
towards the north, and the enormous
ice with which its shores are incumbered.

Perceiving that your Grace may at your pleasure, to your
y, by a godly meane, with little cost, perill, or labour to
r any of your subjects, amplifie and inrich this your sayd
ow it is my bounden duety to manifest *this secret* unto
which hitherto, as I suppose, hath beene hid."—Hak-
The single expedition fitted out in the course of the suc-
nty years could not materially alter the character of
promoter of discovery. A consideration of the simple
:bastian Cabot, during nearly the whole reign of this
as obliged to seek patronage in a foreign country, is
ve as to his pretended zeal in the cause of discovery.
not therefore appear the slightest ground for any alter-
passage as it stands in the text.

The youthful monarch, whether he had any influence in inspiring this general ardour, or whether he caught the flame from his people, showed certainly the most eager interest in the cause. He had already named Sebastian Cabot grand pilot of England, with a salary, considerable in that age, of £166. It was not by royal munificence, however, that the funds were supplied for prosecuting this arduous enterprise. An association, or senate as it is called, was formed, who judged it most advisable to divide the concern into shares of £25, by which means the sum of six thousand pounds was easily raised, and employed in the construction and equipment of three vessels fitted for northern navigation. The preparations, with a due regard to the formidable character and length of the voyage, were made on a scale, of which there had been no previous example; Cabot says, "the like was never in any realm seen, used, or known." The timbers were made of extraordinary strength, by the best shipwrights; the keel was covered with thin sheets of lead,—a contrivance then practised for the first time, and found most important; provisions for eighteen months were put on board. Cabot, though unable, probably from his age, to accompany the expedition, drew up a series of instructions, in which the whole conduct to be observed by the officers and crew is minutely laid down. He enjoins strict attention to prayers, conduct and morals; that morning and evening prayers be read on board each ship, either by chaplain or master; that there be no "ribaldry, ungodly talk, dicing, carding, tabling, nor other devilish games." He prohibits all acts tending to the breach of discipline, "conspiracies, part-taki

ons, false tales, which be the very seeds and
s of contention." Naval subordination being in
age only imperfectly established, and the ten-
y to mutiny extremely strong, these exhorta-
were most necessary and important. All ques-
respecting the steering of the ship were to be
ed by a council of twelve, the captain having
a double vote. Persons skilled in writing were,
h ship, to keep a daily record of the course of
ation, the celestial observations, the aspect of
nds along which they sailed, with every other
ting occurrence. The masters of the different
were to meet weekly, compare these records,
fter combining them with each other, enter
n a common ledger. Directions are even given
ping weekly accounts, maintaining the cook-
nd other parts of the ship clean, and prevent-
r liquor from being spilled upon them. The
of the countries which they visited were "to
idered advisedly, and treated with gentleness
rtesy, without any disdain, laughing, or con-

Particular endeavours were to be made by
ans to allure some one on board, where he
be well clothed and treated, so as to attract
but we cannot so much applaud the hint,
f he be made drunk with your wine or beer,
ll know the secrets of his heart." The ma-
re exhorted, however, to use the utmost cir-
tion in their dealings with these strangers,
invited to dine with any lord or ruler, to
armed, and in a posture of defence. The
furnished to the sailors were to be carefully
the mercantile agents, and to be worn only
heir captain considered it an object to show

them "in good array for the advancement and ... nour of the voyage." He warns the mariners ... to be too much alarmed when they saw the na... dressed in lions' and bears' skins, with long bows ... arrows, as this formidable appearance was often ... sumed merely to inspire terror. However, he se... to suggest a still more chimerical fear, when he t... them that there are persons armed with bows, w... swim naked, in various seas, havens, and rive... "desirous of the bodies of men, which they co... for meat," and against whom diligent watch m... be kept night and day. We know not whet... some confused rumour of the shark and alligat... had an influence in suggesting this strange precau... tion.

The question was now to elect a fitting comman... er, and many offers were made both by persons qua... lified and unqualified. The choice for the supreme direction fell finally on Sir Hugh Willoughby. His recommendations, as mentioned by Adams, were high birth, tall and handsome person, valiant con... duct and skill in war,—merits probably enhanced by admiration of the heroism which impelled him to adventure himself in this new and daring career. No mention being made of nautical experience, it may be suspected that, amid so many brilliant qua... lities, this most essential requisite was not duly taken into account. The command of the next vessel was given to Richard Chancelor, an *élève* of Henry Sidney, father of Sir Philip, and who first gave lustre to that great name. Sidney stood high in the favour of the king, and was inspired with the most ardent zeal for the promotion of the voyage. Chancelor is specially commended for "the many good parts of

n him," tending to inspire the most sanguine
of his success.

l the preparations being thus completed, King
d drew up a letter addressed to all "kings,
s, rulers, judges, and governors of the earth;"
, if composed by himself, certainly reflects very
rable credit upon his spirit and judgment.
erves to these unknown potentates, that "the
d Almighty God hath given unto mankind,
ll other living creatures, such a heart and
that every man desireth to join friendship
ier, to love and to be loved, also to give and
nutual benefits." He represents, therefore,
of showing kindness to strangers, and espe-
"merchants who wander about the world,
oth the land and the sea, to carry such good
itable things as are found in their countries
regions and kingdoms." With this view, it
that a valiant knight, Sir Hugh Willough-
other trusty and faithful servants, had de-
om England. "We therefore desire you,
d princes, and all other to whom there is
er on the earth, to permit unto these our
free passage by your regions and domi-
r they shall not touch any thing of yours un-
unto you." If such kindness were shown,
udes,—"We promise by the God of all
iat are contained in heaven, earth, and the
by the life and tranquillity of our kingdoms,
will with like humanity accept your ser-
at any time they shall come to our king-

judged inexpedient to delay the departure
essels beyond the 10th of May, lest they

should be overtaken by winter in the northern latitudes. All the members of the expedition took a solemn and tender leave of their relations, kindred, and "friends dearer than kindred," and were at their station on the appointed day. The vessels early in the morning dropped down from Ratcliffe to Greenwich, where the court, and, as it were, the nation, were assembled to witness and hail their departure. The king himself was confined by illness, but the principal courtiers stood at the palace-windows, the rest of the household mounted the towers, while the people in crowds lined the shore. The ships fired their guns, causing the hills and valleys to resound: and "the mariners shouted in such sort that the sky rung with the noise thereof. In short, it was a very triumph." The thought of the distant and unknown seas, into which they were so perilously plunging, was either forgotten in this moment of exultation, or served only to heighten its enthusiasm.

The expedition, after stopping a few days at Blackwall, sailed down to Woolwich and Gravesend, and thence to the coast of Essex, where contrary winds unfortunately detained them till the 23d. Then, with a favouring gale, they quitted England and shaped their course into the open expanse of the German Sea. The sailors, however, fixed their eyes on their native land as it gradually receded, and many, unaccustomed to these distant voyages, dropped a few natural tears at the thought that they saw it perhaps for the last time.

Sir Hugh was desirous of touching at the coast of Scotland, but this was rendered impossible by contrary winds, which obliged him also to make fre-

ent changes of course, "traversing and tracing
seas." On the 14th July he found himself in-
ved in that labyrinth of isles which stud the
t of Norway between the 66th and 68th degrees
titude. The ships then stood eastward and out
a, till they came to the larger range of the Lo-
t (Loffoden) Isles. The people, subject to Den-
k, were gentle and courteous; but the English,
dently ignorant of this coast, sought in vain to
n how these islands were situated with regard
the Norwegian shore. They proceeded onward
the large island of Seynam or Senjan, where they
deavoured without success to procure a pilot.
y were now approaching the northern cape of
rope, and saw before them the abyss of the Arc-
Ocean stretching onwards to the Pole, and soon
be filled with snows and tempests. In this cri-
al conjuncture Sir Hugh assembled the com-
anders, and exhorted them to keep close together;
t, in case of separation, appointed their rendez-
ous at Wardhuys, understood to be the principal
rt of Finmark. The wisdom of this precaution
on appeared. Before the English could enter a
rbour, there arose such "flaws of wind and ter-
ble whirlwinds," that they were obliged to stand
t to the open sea, and allow the vessels to drift at
e mercy of the waves. Amid the thick mists of
e next stormy night the vessels of Willoughby and
hancelor separated, and never again met. Cle-
ent Adams, who was with Chancelor, says, that
they were driving before the gale, the admiral
udly and earnestly called upon them to keep close
him; but that he himself carried so much sail,
d his vessel was so superior, that Chancelor could

not possibly obey this order. Willoughby's pinnace was dashed to pieces amid the tempest; and next morning, when light dawned, he could see nothing of his companions; but, discovering at length the smaller vessel called the Confidence, he continued his voyage. He now sailed nearly two hundred miles north-east and by north, but was astonished and bewildered at not discovering any symptom of land; whence it appeared that "the land lay not as the globe made mention." The imperfect maps of those days appear not to have shown that the southerly bend which the coast takes towards the great opening of the Waranger Fiord, on which Wardhuys is situated. Instead, therefore, of sailing along or toward the coast of Norway, he was plunging always deeper and deeper into the abyss of the Northern Ocean. At length the soundings indicating a depth of 160 fathoms, proved the mariners to be far out at sea, involved in some great and perilous error. They then for some time held a direction to the south-east, yet afterwards again turned to the north, and continued shifting their courses amid doubt and uncertainty. Thus, as they groped their way through these vast and stormy seas, at length land appeared, but high, desolate and covered with snow, while no sound could be wafted over the waves except the crash of its falling ice, and the hungry roar of its monsters. This coast was evidently that of Nova Zemblia; but there was no point at which a landing could be made. After another attempt to push to the northward, the mariners became sensible that the coast of Norway was to be found only by an entire change of direction. They turned to the south-west, and having

llowed that course for a number of days saw the
ast of Russian Lapland. Here they must have
en very near the opening into the White Sea, in-
which, had fortune guided their sails, they would
ve reached Archangel, have had a joyful meeting
th their comrades, and spent the winter in com-
rt and security. An evil destiny led them west-
ard, in the hope probably of reaching Wardhuys,
e only point in those immense seas of which they
d any distinct knowledge. The coast was naked,
inhabited, and destitute of shelter, except at one
int, where they found a shore bold and rocky,
t with one or two good harbours. Here, though
was only the middle of September, they felt al-
ady all the premature rigours of a northern sea-
n; intense frost, snow, and ice, driving through
e air as though it had been the depth of winter.
e officers conceived it therefore most expedient to
arch no longer along these desolate shores, but to
ke up their quarters in this haven till the ensuing
ring. They were surprised by the appearances of
retic zoology,—rein-deer, foxes, Polar bears, and
divers beasts to them unknown, and therefore
nderful."

The narrative here closes, and the darkest gloom
volves the fate of this first English expedition.
either the commander nor any of his brave com-
nions ever returned to their native shores. After
ng suspense and anxiety, tidings reached England
at some Russian sailors, as they wandered along
ese dreary boundaries, had been astonished by the
ew of two large ships, which they entered, and
nd the gallant crews all lifeless. There was only
e journal of the voyage, with a note written in

January, shewing what at that date the crews were still alive. What was the immediate cause of a catastrophe so dismal and so complete,—whether the extremity of cold, famine, or disease, or whether all these ills united at once assailed them,—can now only be matter of sad conjecture. Thomson thus pathetically laments their fate:—

> Miserable they,
> Who, here entangled in the gathering ice,
> Take their last look of the descending sun;
> While full of death, and fierce with tenfold frost,
> The long long night, incumbent o'er their heads,
> Falls horrible. Such was the Briton's fate,
> As yet these seas prove what have not Britons dared!)
> He for the passage sought, attempted since
> So much in vain——

We must now follow the career of Chancellor, with whom we parted amid the tempest which overtook the ships at the extremity of Norway. This commander pressed on, and, by keeping close to the shore, or by obtaining better information, succeeded without any difficulty in reaching Wardhuys. There he waited for his companion seven days, after which, disregarding the alarming reports of perils that would beset his farther progress, he pushed on gallantly towards his mysterious destination. "He held on his course towards that unknown part of the world, and sailed so far that he came at last to the place where he found no night at all, but a continual light and brightness of the sun, shining clearly upon the great and mighty sea." As this was August, it seems mysterious how the perpetual light of the northern midsummer should have been perceived for the first time, and have been ascribed to the progress eastward. Probably a course of gloomy weather had preceded and rendered

it for the first time sensible. Thus, however, the adventurers were guided to the entrance of an immense bay, which was no other than the White Sea,—a grand feature yet unknown to Western Europe. They espied a little fishing-boat, the crew of which, having never seen a vessel of similar magnitude, were as much astonished as the native Americans had been at the Spaniards, and, taking the alarm, fled at full speed. Chancelor, with his party, pursued and overtook them; whereupon they fell flat on the ground, half-dead, crying for mercy. He immediately raised them most courteously, and by looks, gestures, and gifts, expressed the most kind intentions. Being then allowed to depart, they spread every where the report of the arrival "of a strange nation, of singular gentleness and courtesy." The natives came in crowds, and the sailors were copiously supplied with provisions and every thing they wanted.

Chancelor now, inquiring on what part of the world he had been thrown, learned that he was at the extremity of a vast country, then obscurely known to Western Europe under the title of Russia or Muscovy, and which was under the absolute rule of a sovereign named Ivan Vasilovitch. Although the court at Moscow was immensely distant, and could only be reached by sledges over the snow, Chancelor immediately began to negotiate for permission to visit the capital of this great potentate; which he obtained after the delay of sending to Moscow. His journey to that city carrying him out of the sphere of Arctic discovery, it will suffice to say that he was received in the most satisfactory manner, and returned with a letter from the czar, ex-

pressing a cordial desire to open an intercourse with England, and to grant to the Company of Merchant-Adventurers every privilege necessary to enable them to carry on traffic in his kingdom. The traders now assumed the title of the Muscovy Company; and the same officer was again sent out with credentials from Philip and Mary, who, in consequence of the premature death of Edward, then filled the throne. The original object of an eastern passage was not lost sight of: the captain being instructed to make every possible inquiry on the subject. The spirit of discovery at home was too ardent, however, to wait his return. A small vessel, called the Searchthrift, was fitted out in 1556, and placed under the command of Stephen Burroughs, who on the first voyage had acted as master of Richard Chancelor's vessel. Enthusiasm and hope seem to have risen as high as at the departure of the first expedition. Sebastian Cabot came down to Gravesend with a large party of ladies and gentlemen, and, having first gone on board and partaken of such cheer as the vessel afforded, invited Burroughs and his company to a splendid banquet at the sign of the Christopher. After dinner, a dance being proposed, the venerable pilot started up and tripped it along with the most youthful of the party.

Under these cheerful auspices, Burroughs, on the 23th April, sailed from Gravesend. Various circumstances delayed till the middle of July his arrival at the islands and straits of Waygatz, between Nova Zembla and the continent. On the 21st the crew saw what they imagined to be land, but it proved to be a "monstrous heap of ice, which was a fearful sight to see." They were soon entangled in

ıd for six hours could with difficulty avoid one
without striking upon another. Soon after
ımense whale came so close that they might
thrust a sword into him; but, alarmed lest he
d overset the vessel, Burroughs called together
ıen, and caused them to shout with all their
; upon which this mighty animal, which is
r ferocious nor very courageous, plunged into
pths with a terrible noise.
ıong the islands of Waygatz the English de-
a Russian sail. The master, named Loshak,
himself to be in extreme haste; but, on re-
ıg a glass, two pewter spoons, and two knives,
ented seventeen wild geese, and gave much
nation. He stated this to be the country of
rild Samoiedes, who owned no subjection to
ia, but "will shoot at all men to the uttermost
eir power that cannot speak their speech;" it
ven said that they ate the Russians. Loshak
ıe captain to a place left by these people, where
were still three hundred of their idols, the
t workmanship Burroughs ever saw. They
ıted of figures of men, women, and children,
y grossly wrought; the eyes, mouths, and other
, stained with blood." We may here mention
Johnson, one of the party, when at the Pechora,
ıeen present at a mighty scene of magic incan-
ı, performed by one of the great northern wiz-

This personage first took a great sieve, some-
resembling a drum, then he began to sing "as
ıse in England to halloo, whoop, and shout at
ıds," to which the company responded with—
, *igha, igha!* At length the magician fell into
ulsions, and dropped down as if dead, though

he could still be heard breathing. Johnson, h
asked the meaning of all this, was told—"Nov
our God tell him what we shall do!" Having
allowed him to remain for a short time, the
began to cry *aghao, aghao!* whereupon he ros
again began to sing. He next took a swor
thrust it through his body, causing it to enter
breast and issue at the back. Johnson saw
into the shirt before and come out at the shi
hind, but does not seem to have scrutinized
any diligence its actual passage through the
The sword, probably only of iron, had been h
which would favour greatly a circuitous track
magician then sat down with a vessel of hot
before him, and a line or rope of deer-skin
round his body, over all which, as well as h
a spacious cloth mantle was spread. The e
the line being left without the mantle, were
tight by two men on opposite sides, till som
was heard falling into the dish. Johnson,
what this was, learned with horror that it w
magician's head, shoulder, and left arm, s
from the body by the violent pulling of th
Johnson besought that he might be allowed
the cloak and view this awful spectacle, b
assured that no one could do so and live. Af
multitude had sung and hallooed for some tir
cloak was lifted, when the wizard came fort
fectly entire, all the parts cut asunder hav
seems been miraculously replaced. The imp
however gross and obvious, appears to have
pletely succeeded with the ignorant natives.

Burroughs had passed fifteen leagues beyo
mouth of the Pechora, and the soundings ind

pproach to Nova Zembla, when he came to the
usion that all attempts to penetrate farther
ear would be abortive. Among other causes,
entions the untoward north and north-easterly
, which were more powerful than in any other
he ever knew; the great and terrible abun-
of ice, of which he had reason always to ex-
reater store; the nights waxing dark, and
r with his storms beginning to draw on. Un-
ese considerations he determined to return
inter at Colmogro, stating his intention to
next summer his attempts to penetrate
d; but this, in consequence of other em-
nt, was never carried into effect.

e occurred now a tragical incident connected
rthern discovery. The czar, Ivan Vasilo-
nt back with Richard Chancelor his ambas-
d orator, as he is termed, Osep Nepea Gre-
h, with four ships heavily laden with furs,
in-oil, and other Russian commodities, to
e of upwards of £20,000, which belonged
the merchants and partly to the orator.
homeward voyage, two of the vessels were
on the coast of Norway, a third reached
nes, but the Edward Bonaventure, in which
chiefs of the expedition, was driven by the
nto the Bay of Pittisligo (Pitsligo), in the
Scotland, where it went entirely to pieces.
r endeavoured, in a very dark night, to
himself and the ambassador ashore in a
he skiff was overwhelmed by the tempest,
captain drowned; though the ambassador,
good fortune, succeeded in reaching the
e thence proceeded to London, where Philip

and Mary gave him a splendid and pompous reception.

A disastrous character upon the whole was thus given to these voyages along the northern boundary of Europe and Asia. This would not probably have damped the high spirit of enterprise by which the British were then animated; but the Muscovy Company had their attention diverted by the project of opening a communication with Persia and India across the Caspian, and by ascending the Oxus to Bochara. This scheme they prosecuted at great cost, and by a series of bold adventures, in which Jenkinson, Johnson, Alcocke, and other of their agents penetrated deep into the interior regions of Asia. An unusual degree of courage was indeed necessary to undertake this expedition, which was to be begun by passing round the North Cape to the White Sea; then, by a land-journey and voyage down the Volga, across the whole breadth of the Russian empire to Astrakhan, before they could even embark on the Caspian. The truth is, such a scheme was marked by the ignorance not less than by the boldness of early mercantile enterprise. It was soon ascertained, that no goods could bear the cost of such an immense and dangerous conveyance by sea and land; that the goods of India could be brought, and those of Europe returned, much cheaper and more commodiously, by the way of Aleppo and the Mediterranean, than by this vast circuit round the stormy North. If the former conveyance, therefore, could not stand a competition with the water-carriage by the Cape of Good Hope, how could the latter? It was abandoned, and no attempt for a long time was made to revive it.

hannel of intercourse with India having
e attention of commercial and nautical ad-
was again attracted to the possibility of
a passage by the north and east of Asia.
ce had just been received respecting the
, which was reported to enter the ocean
y mouths, and therefore seemed likely to
ate with the most important countries
rior of Asia. John Balak, who had taken
idence at Duisburg, on the river Osella,
Gerard Mercator, the famous cosmogra-
rticular account of this river, and of the
de by Asenius, a native of the Nether-
enetrate eastward along the Asiatic coast.
ns in particular another river called a
f the Obi, but which, from the details,
her to have been the Yenisei, down which
eat vessels laden with rich and precious
se, brought by black or swart people."
ng this river, men came to the great lake
(Baikal?) on whose banks were the Kara
who, he asserts, were the very people of
It was added, that on the shores of this
een heard sweet harmony of bells, and
y and large buildings had been seen there-
e Mercator, in a letter to Hakluyt, infers
r small progress beyond the limit already
navigators would carry them to the great
lms of Japan and China. He maintain-
e cape bounding the Gulf of Obi was no
the great promontory of Tabis, which,
o Pliny, formed the north-eastern bound-
s; which being turned, the fortunate na-
uld bear down direct upon Serica, Ca-

thay, Cambalu,—those regions with which ancie
and modern rumour had identified the position of
Chinese empire. This was underrating the brea
of Asia by a hundred degrees of longitude, or
than a fourth of the circumference of the glo
this parallel; yet so imperfect were the sour
knowledge in those days, that the error, how
immense, cannot be considered as fatal to the r
tation of this great geographer.

To realize these views, Arthur Pet and Cha
Jackman were supplied in 1580 with two ves
the George and the William. On the 23d June t
arrived at Wardhuys; from which they sailed on
1st July. Approaching Nova Zembla they fo
themselves enclosed in a bay of ice, whence t
were obliged to come out as they entered, and
much trouble before they were able to round
large field to which it belonged. On the 19t
July they saw Waygatz, and endeavoured to r
their way along its southern coast; but found
shallow that they were compelled to turn and r
a circuit by the north. Passing onwards they
to a fair low island, and found a passage betwee
ice and the shore, which however at length cl
and they could advance no farther. At the
time the ships were separated by large fields o
and could communicate only by beating drum
firing muskets, till they were able to warp roun
rejoin each other. They enjoyed now the mo
vourable breeze; but all was rendered vain b
state of the ice. "Winds we have had at will
ice and fogs too much against our wills if it
pleased the Lord God otherwise." The captain
termined to return to Waygatz, where they r

ained together, and endeavour to find a more open passage. They were now obliged to warp from one piece of ice to another, some of them so large that they could not see beyond them from the topmast. They were repeatedly enclosed by these masses, enveloped with dark fogs, and obliged to make fast their vessel to icebergs, where, "abiding the Lord's leisure, they continued with patience." On the 13th August the vessels were involved among pieces of loose ice, one of which broke the stock of their anchor, "and many other great blows we had against the same, that it was marvellous the ship was able to abide them." The boat, being between the floe and the brig, was struck, its side driven in, and the vessel itself was made to recoil backward. Pet and Jackman did not reach Waygatz till the 16th August; by which time, it being found impracticable to attempt penetrating again to the eastward, they might only to repass the North Cape. They appear to have been zealous, well-intentioned men; but not duly acquainted with the history of ice, and adhered too closely to the land, whence large masses are continually detached or carried down by the rivers, while the open sea might have afforded better hopes of a prosperous navigation.

The *United Provinces*, when roused to resistance by the ferocious bigotry of Philip, and by the cruelties of the remorseless Alva, after a long, hard, and glorious struggle, succeeded in establishing their little territory as an independent republic. Thence-forth they began to look to the sea as the source of their greatness and prosperity. This element surrounded and penetrated their country on all sides, and towered, as it were, above them; and they had

employed its inundations to defend their small dominions against immensely superior forces. Commerce—a commerce embracing the globe—was necessary to compensate for the narrow limits within which they were hemmed, and to raise them to the first rank among the states of Europe. The East was the most promising quarter; but its approaches were strictly guarded, and they had not yet a fleet which could cope with the mighty armadas of Spain in the Atlantic and Indian Seas. The North alone was open to their enterprise; and, by passing its frozen boundaries, they hoped to arrive at the rich and celebrated empires whence so ample a tide of wealth had flowed into Europe.

The first expedition was undertaken by a private society of merchants, upon asking permission only of the States and of their high admiral, Prince Maurice. Three vessels, with a small yacht, were equipped at Amsterdam, Enchuysen, and Zealand. The pilot of the Amsterdam ship, to whose guidance the expedition was generally intrusted, was William Barentz, who approved himself as one of the most expert nautical men of the age.

The squadron sailed from the Texel on the 5th June 1594, and on the 23d arrived at the Island of Kilduin in Muscovy. Approaching Nova Zembla it was formed into two divisions, one of which attempted to pass by the old route of the Strait of Waygatz; but Barentz himself, taking a bolder course, endeavoured to pass round to the northward of Nova Zembla, that great insular mass which opposed, like a barrier, his eastward progress. Here he coasted the Bay of Loms, so called from the numerous flocks of the bird of that name, probably the

penguin, with wings so small, compared to its amp.. body, that it seemed astonishing how they could support the creature's motion in the air. Passing the Black Cape and William's Isle, the Dutch saw various features characteristic of the Arctic world; among others the walrus in large herds, that huge amphibious animal called variously sea-horse or sea-cow, of which they give a very good description. Subsequently, at the Orange Isles, they came upon two or three hundred lying in heaps upon the sand, and basking in the sun. Having formed the erroneous idea that these animals are helpless on shore, the sailors marched against them as to an assured victory, congratulating themselves on the multitude of valuable teeth which would become an easy prize. So completely were they mistaken, that these gallant amphibia not only encountered, but beat them off with loss and dishonour, breaking in pieces the pikes, hatchets, and sabres, employed in this fruitless assault. The crews sustained also the fierce encounter of the Polar bear. Having seen one on the shore, they entered their shallop and discharged several balls at him, but without inflicting any deadly wound. They were then happy when they succeeded in throwing a noose about his neck, hoping to lead him like a lapdog, and carry him as a trophy into Holland. They were not a little alarmed by his mighty and tremendous struggles; but what was their consternation, when he fastened his paws on the stern and entered the boat! The whole crew hastily clung to the poop, expecting instant death, either from the sea or from his jaws. Providentially at this moment the noose got entangled with the iron work of the rudder, and the creature struggled

in vain to extricate himself. Seeing him thus fixed, they at length summoned courage to advance and despatch him with their spears.

Barentz, by the 1st August, reached the northern extremity of Nova Zembla, in lat. 77°; but the wind blew so strong, separating the ice into large flakes, that he and his crew, rather early it should seem, gave up hope and resolved to return.

The two other vessels meantime pushed on along the coast, and in due time arrived at Waygatz. This island had a very agreeable aspect, being covered with verdure and abundance of flowers, herbs, plants, and particularly a great store of leeks. Large trees were lying piled in heaps over each other, which appeared very surprising, when neither on this nor the opposite coast was there a single one found growing; but it was rightly judged that they were brought down the rivers of Tartary, and drifted hither by winds and currents. On turning a point the Dutch observed one of those great collections of rudely-carved images which had been formerly remarked by Burroughs. These consisted of men, women, and children, sometimes having from four to eight heads, all with their faces turned eastward, and many horns of rein-deer lying at their feet: it was called, therefore, the Cape of Idols. Forster alleges that the Samoiedes have been falsely charged with this idolatry, and that it were more charitable to conclude these to have been images of departed friends whom they cherished with pious veneration; but it does not very exactly appear how the Samoiedes should have had friends with six or eight faces.

The expedition had some difficulty in working

y through the Strait of Waygatz,—after which, and sailing for some space along the Nova Zembla, they were repelled by the iers; but, having by perseverance rounded hey arrived at a wide, blue, open sea, with it bending rapidly southward; and, though s only the shore of the Gulf of Obi, they l not that it was the eastern boundary of nd would afford an easy passage down upon Instead, however, of prosecuting this voy- y determined to hasten back and communi- their countrymen this joyful intelligence.) divisions met on the coast of Russian Lap- ıd arrived in the Texel on the 16th Sep-

ntelligence conveyed in regard to the latter his expedition kindled the most sanguine the government and people of Holland. Maurice and the States-General no longer themselves to empty praise and sanction, ılied funds to aid in a fresh voyage. Six ere fitted out, not as for adventure and dis- ɔut as for assured success, and for carrying tensive traffic in the golden regions of the hey were laden with merchandise, and well with money; while a seventh, a light as instructed to follow them till they had abis, the supposed bounding promontory of vhen, having finally extricated themselves e Polar ices, and directed their course to it was to return to Holland with the joyful Peter Plancius, the most celebrated cos- her of that age, drew up a map for their e,—doubtless in our eyes a very crude per-

formance, but which combined all the geographical lights of that ignorant period.

The armaments, which at that early epoch were set forth with the greatest pomp and the most ample equipment, usually issued in the most lame and impotent results. These large and heavily-laden vessels were peculiarly ill-fitted for winding their way through narrow seas and channels incumbered with ice. Of all the northern expeditions, accordingly, none answered less than the present the great cost and magnificent expectations with which it had been equipped.

The squadron sailed from the Texel on the 2d of June (1595), a period of the season decidedly too late. Nothing great occurred till the 4th August, when they reached the strait between Waygatz and the continent, to which they had given the appellation of the Strait of Nassau. They came to the Cape of Idols: but, though these were still drawn up in full array, no trace was found of the habitations which they might have seemed to indicate. A Russian vessel, however, constructed of pieces of bark sewed together, was met on its way from the Petchora to the Obi in search of the teeth of the sea horse, whalebone, and geese. The sailors accosted the Dutch in a very friendly manner, presented eight sea birds, and, on going on board one of the vessels, were struck with astonishment at its magnitude, its equipments, and the high order with which every thing was arranged. This being fast-day, they refused meat, butter, and cheese; but on being offered a raw herring, eagerly swallowed it entire, head and tail inclusive.

The navigators, after considerable search, fell with a party of Samoyedes, who are described as

ple of small stature, broad and flat face, little s, short legs, and wrapt entirely in rein-deer ns, except a few who wore coloured cloth lined th fur. They manifested considerable jealousy strangers, and on the approach of the interpreter l drawn their arrows to shoot him; but he called ud, "We are friends;" upon which they laid wn their weapons, and saluted him in the Rus- n style, by bending their heads to the ground. e intercourse which followed was conducted on ir part with considerable courtesy and good sense, ingled with a feeling of precaution and even alarm. a hearing a gun fired, they ran away and leapt e madmen, till assured that no harm was intend- ; and they were then amused by seeing a little ne placed on an eminence struck and shattered to ces by a musket-ball. A sailor boldly went up the chief, dignified in the narrative with the title king, and presented him with some biscuit, hich the monarch graciously accepted and ate, ough looking round somewhat suspiciously. At ngth the parties took a friendly leave; but a na- ve ran after the foreigners with signs of great an- r, on account of one of their rude statues which a ilor had carried off. These figures were now judg- l to be divinities, and the bones found lying be- re them the remains of sacrifices offered to them i that capacity. The Dutch seem to have formed still lower estimate than Burroughs of Samoiede culpture. These images are described as little bet- r than logs, somewhat rounded at the top to re- resent a head, with a slight projection for the nose, wo little holes for eyes, and one larger aperture to epresent the mouth.

The discoverers had been informed, in answer to diligent inquiries, that beyond a point which might be reached in about five days' sail, there extended a large open sea to the south-east. They made repeated attempts to reach this point; but, after emerging from the Strait of Waygatz, were always driven back by large bodies of floating ice. They persevered till the end of September, when these masses entered the Waygatz in such force that they were obliged with all speed to quit it by the western opening, and bend their sails towards Holland, without having accomplished any one of the brilliant objects for which this expedition had been undertaken.

A very considerable disappointment was felt in that country at the failure of an expedition from which such sanguine hopes had been cherished. The States-General declined supplying funds for a fresh armament; but they proclaimed a reward to any individual or body of men by whom the object might be successfully accomplished. The town-council of Amsterdam, with great spirit, determined to fit out another squadron on a smaller scale, and equipped only for discovery. They prepared two vessels, which were respectively intrusted, one to Barentz, and the other to John Corneliz Ryp, with seemingly an equal division of power. Suspecting apparently a prevalence of home-sickness, they admitted on board none but unmarried persons, who, it was hoped, would be animated with a bolder spirit of enterprise, and less inclined to long for return.

The vessels set sail, still rather too late, on the 10th of May, 1596. Their object seems to have been to avoid the coast of Russia and the Straits, to shun

en Nova Zembla, and to push on direct through
e wide expanse of the Northern Ocean. They
en stood inadvertently somewhat to the west, and
the 22d came in view of the Shetland Islands.
rentz urged that they should turn due east, in
er to compensate this deviation; but Corneliz
ted that this would carry them at once into the
ait of Waygatz, the scene of so many abortive
ts, and insisted upon steering towards the north-
h-east. After passing the Shetlands, they saw
ost brilliant celestial phenomena they had ever
ssed. The sun was attended by two parhelia
ck suns, while a bright rainbow traversed all
ree suns, and two other bows crossed the hea-
n different quarters. On the 5th June some
called out that a multitude of white swans
wimming in the water; but the more expe-
l gave warning that these swans would be
to be made of ice, and accordingly they were
iling in the midst of these moving masses.
o days they proceeded between them as be-
two lands; while the colour of the sea, which
een as grass, gave them the idea of being near
ntry called Greenland: but Scoresby has
as is elsewhere observed, that this colour is
ed by the contents of the sea itself. On the
adventurers discovered a long island rising
y into steep and lofty cliffs, the highest of
has borne the appropriate name of Mount
. Pennant, who erroneously supposes Ben-
1603, to have been the first discoverer, ob-
—"The horror of this isle to the first dis-
s must have been unspeakable: the prospect
; black where not hid with snow, and broken

into a thousand precipices. No sounds but of the dashing of the waves, the crashing collision of floating ice, the discordant notes of myriads of sea-fowl, the yelping of Arctic foxes, the snorting of the walruses, or the roaring of the Polar bears." The hills were so excessively steep that, though a party contrived to clamber up, they durst not look down, and the descent proved most doubtful and perilous. At length, applying their backs to the face of the steep, they slid down with safety; which Barents, who looked up, could never have thought possible. From a bear, which the Dutch attacked, and vainly attempted to secure by a noose, they gave to it the name of Bear Island, which the English afterwards attempted to supplant by that of Alderman Clark. Proceeding onward, still by too northerly a course, they reached the latitude of 80°, and discovered a coast which soon proved to belong to a country of great extent. This was Spitzbergen, or East Greenland, which, from the latitude, they probably supposed must be northern point of Hakluyt's Head land. The name of Greenland, which has in some degree adhered to this island, was given under the erroneous impression of its belonging to that great extent of coast, so called by the Icelanders, in distinction from which it has been called East Greenland.

The Dutch, finding their progress eastward stopped by this line of coast, now retraced their route along its deep bays, still steering southward, till they found themselves again at Bear Island. Here Cherneliz and Barents differed once more; the latter still adhering to his original views, and recommending that they should again push northwa

and endeavour to find their way along the eastern coast of the newly-discovered land; but Barentz insisted, more rationally, that they ought to steer east-south-east, and endeavour to round the northern point of Nova Zembla. Being unable to agree, and Barentz being resolved for this time not to yield, they determined to separate, and each to make trial of his respective course. Barentz, whom we follow, proceeded according to his plan, till at mid-day, on the 17th July, he found himself off the coast of Nova Zembla; he had gone too far south, and was obliged to turn again northwards. He pushed on as vigorously as possible, yet it was not till the 6th August that he doubled Cape Nassau; but here finding the ice drifting along in large masses, and being involved in deep fogs, he judged it expedient to moor his vessel to a large iceberg. As the master was walking on deck, he saw a large bear endeavouring to scale the sides of the ship. He immediately called out, "All hands up!" and the crew having mustered, raised loud cries, which induced the monster to retreat; but he soon returned to the charge. They had now a sail raised along the deck, and four guns loaded, which were fired with such effect, that the bear fled, and sought shelter amid large masses of ice.

On the 10th of August the ice began to separate, and the seamen remarked that the *berg* to which they were moored was fixed to the bottom, and that the others struck against it. Afraid that these loose pieces would collect and enclose them, they omitted their moorings, and sailed on. The ice was already forming on the surface, and the ship in sailing through made it crack on all sides. The Dutch

worked on their way, mooring themselves to suc-
sive fragments, one of which rose like a steeple,
ing twenty fathoms above and twelve beneath
water. They saw round them more than four hu-
dred large icebergs, the fear of which made th
keep close to the shore, not aware of that being
quarter where these dangerous bodies were for
and along which they chiefly ranged. Howe
they steered on, and having passed what they cal
Little Icy Cape came to Orange Island, which fo
the northern extremity of Nova Zembla. Here
men swam on shore, and having mounted seve
piles of ice, which rose as it were into a little mou
tain, they had the satisfaction of seeing the co
trending southward, and a wide open sea to th
south-east. They hastened back to Barentz wi
these joyful tidings, and the success of the voyag
was considered almost secure.

But these hopes were delusive. After doubling
what was called Cape Desire (now Zelania), the
icebergs mustered in such force that the crews gave
up all idea of doing more than reach the Strait of
Waygatz on their return home. They were driven,
however, so rapidly before the floating masses, that
three men, who had mounted one of them to recon-
noitre, would have been left behind, but for extra-
ordinary exertions of agility. They were now drawn
direct into what they called Icy Port, and the ves-
sel was thrown into a position almost perpendicular,
with one end nearly touching the bottom. From
this critical attitude they were relieved next day;
but fresh masses of ice continually poured in, aug-
menting the terrible ramparts with which they were
enclosed. One side of the vessel was raised by suc-

ensive pieces jammed beneath it, but the other was similarly elevated; so that the ship was lifted to the top of the ice as by machinery. All this time the cracking, both around them, on every side, and within the ship itself, was so dreadful that they were in continual fear of its parting into fragments; but this interior cracking, arising merely from the freezing of the juices of the timber, was much less dangerous than they imagined.

The Dutch now felt that they must bid adieu for this year to all hopes of escape from their icy prison. As the vessel was cracking continually, and opening in different quarters, they made no doubt of its going to pieces, and could hope to survive the winter only by constructing a hut, which might shelter them from the approaching rigour of the season. Parties sent into the country reported having seen footsteps of rein-deer, also a river of fresh water; and, what was more important still, a great quantity of fine trees, with the roots still attached to them, strewed upon the shore. Not one of these trees could have grown on the frozen soil of Nova Zembla; they were all brought down the rivers of Siberia and Tartary, and wafted over the ocean by winds and currents. This circumstance gave a particularly cheerful colour to the hopes of the mariners. They trusted that Providence, which had in a surprising manner furnished materials to build a house, and fuel to warm it, would supply also whatever was necessary for their passing through the approaching winter, and for returning at length to their native country. A sledge was instantly constructed; three men cut the wood, while ten carry it to the spot marked out for the hut. They

sought to raise a rampart of earth for shelter and security, and employed a long line of fire in the hope of softening the ground, but in vain.—The carpenter having died, it was found impossible to dig a grave for him, and they lodged his body in a cleft of the rock.

The building of the hut was carried on with assiduity, as affording the only hope of life; yet the cold endured in this operation was intense, and almost insupportable. When a nail was put into the mouth, it was frozen to the lip, and brought the skin away, drawing blood. The snow sometimes fell so thick, for days successively, that the seamen could not stir from under cover. They had at the same time hard and perpetual combats with the Polar bear. One day the master saw from the ship three of these furious animals running towards the working party, and gave them warning by loud cries. They immediately ran towards the vessel; when one of them, in his haste, fell into a cleft in the ice, and was given up for lost; but the bears overlooked him, and continued their pursuit of the main body. The sailors having at length reached the ship, made the circuit of it, and mounted from behind; but their pursuers entered in front, and advanced furiously to the attack. A man, sent down to the kitchen to light a match, was in too great haste and agitation to accomplish that simple process, and the muskets were thus useless. The crew could only now parry the assault by throwing at the bears whatever came first to hand, by which the attention of the animals was always for a moment attracted, though they returned to the charge with fresh vigour. At length, when matters seemed approaching to extremity, a halberd

was darted at the largest, which struck him on the mouth with such force that he retreated from the tunnel, and the others followed.

Notwithstanding this intense rigour, winter had not yet thoroughly set in. Several days of south-west wind dissolved a vast quantity of ice, and they saw a wide open sea without, while the vessel was enclosed within, as it were, by a solid wall. By October they completed their hut, and prepared to convey thither their provisions and stores. Some painful discoveries were now made. Several tuns of fine Dantzic beer, of an agreeable and medicinal quality, and from which they had anticipated much comfort, had frozen so hard as to break the casks, bursting even the iron hoops by which they were held. The contents, indeed, existed in the form of ice; but this, when thawed, had merely the taste of bad water; and though in the middle they found a liquor concentrating in itself the whole strength of the beer, it had not the true flavour and character of that beverage. They made trial of mixing the two together, but without being able to restore its proper relish and virtue.

The sun, which had hitherto been their only pleasure and consolation, began now to pay only short visits, and to give signs of his approaching departure. He rose in the south-south-east, and set in the south-south-west, while the moon was scarcely dimmed by his presence. On the 1st November his full orb was still seen for a short interval; on the 2d it rested on the horizon, from which it did not detach itself; on the 4th the sky was calm and clear, but no sun rose or set.

The dreary winter night of three months, which

had now set in, was not, however, without some alleviations. The moon, now at the full, wheeled her pale but perpetual circle round the horizon. With the sun disappeared also the bear, and in his room came the Arctic fox, a beautiful little creature whose flesh resembled kid, and furnished a variety to their meals. They found great difficulty in the measurement of time, and on the 6th rose only late in the day, when a controversy ensued whether it was day or night. The cold had stopped the movements of all the clocks; but they afterwards formed a sand-glass of twelve hours, by which they contrived tolerably to estimate their time.

On the 3d December, as the sailors lay in bed, they heard from without a noise so tremendous, as if all the mountains of ice by which they were surrounded had fallen in pieces over each other. In fact, the first light which they afterwards obtained showed a considerable extent of open sea; yet this disruption must have been produced by a merely internal movement of the ice, not by any tendency towards thaw.

As the season advanced, the cold became always more and more intense. Early in December a dense fall of snow stopped up all the passages by which the smoke could escape; so that a fire, at all fitted for the dreadful inclemency of the season, led to the danger of suffocation. The men were thus obliged to keep the room at a miserably low temperature, for which they used the imperfect remedy of heated stones, passed from one bed to another. One great trouble was how to wash their clothes: whenever they took these up from the boiling water, and began to wring them, the linen froze in their hands;

ıey hung them up to dry, the side far-
ıe fire was hard frozen. The cold be-
ys more rigorous, ice two inches thick
n the walls. At length their sufferings
an extremity that, casting at each other
ınd piteous looks, they anticipated that
d in the extinction of life. They now
, cost what it might, they should for
ɔughly warmed. They repaired, there-
ship, whence they brought an ample
l; and having kindled an immense fire,
y stopped up the windows and every
which the cold could penetrate, they
mselves into a most comfortable tem-
this delicious state, to which they had
trangers, they went to rest, and talked
e time before falling asleep. Suddenly,
le of the night, several wakened in a
ıost painful vertigo; their cries roused
all found themselves more or less in
rming predicament. On attempting to
ume dizzy, and could neither stand nor
ngth two or three contrived to stagger
loor; but the first who opened it fell
ble among the snow. De Veer, who
revived him by pouring vinegar on
l the wintry air, which had been their
d, now restored life to the whole party.
appy mariners being thus compelled to
in access to the wintry blast, its effects
ys more and more insupportable. It
he fire had lost all power of conveying
lothes were white with snow and hoar-
tockings were burned before the feet

felt any warmth, and this burning was announced by smell rather than by feeling. Yet, in the very midst of these sufferings, remembering that the 5th January was the Feast of the Kings, they besought the master that they might be allowed to celebrate that great Dutch festival. They had saved a little wine and two pounds of flour, with which they fried pancakes in oil; the tickets were drawn, the gunner was crowned king of Nova Zembla, and the evening passed as merrily as if they had been at home round their native fireside. Nothing can more strikingly illustrate the salutary effects produced even in these desperate circumstances by mental occupation and amusement,—effects of which Captain Parry afterwards made so happy a use.

About the middle of January the crews began to experience some abatement of that deep darkness in which they had so long been involved. On throwing a bowl, they could see it run along the ground, which was before impossible. Soon after, about mid-day, a faint flush was seen to tinge the horizon; and this first dawn of the annual morning revived in their hearts the hope which was almost extinguished. On the 24th, De Veer and two others ran in to say that they had seen a portion of the sun's disc. Barentz demonstrated, from the structure of the earth, that this could not take place for fifteen days. Many, however, trusted more to the eyes of their companions; and bets were taken, that could not be decided in the two following days, in consequence of a heavy fog in which the air was involved. The 27th, however, being clear, they went out in a body, and saw ascending above the horizon the full orb of that great luminary. Joy took possession

arts, and Barentz in vain continued to
this appearance was contrary to every
science. He was not aware of the ex-
ver of refraction in this northern air,
Captain Parry's expedition, produced a
idgment in the duration of the Polar

ow assumed a more cheerful aspect.
constantly moping in the hut, the men
laily, employed themselves in walking,
nd athletic games, which warmed their
preserved their health. With the sun,
ppeared their old enemy the bear. One
em amid so thick a mist that they could
oint their pieces, and sought shelter in
he bear came to the door, and made the
ate attempts to burst it open; but the
his back firmly set against it, and the
ast retreated. Soon after he mounted
here, having in vain attempted to enter
ney, he made furious attempts to pull
aring the sail in which it was wrapped;
ile his frightful and hungry roarings
ay through the mansion beneath: at
treated. Another came so close to the
rd, who was looking another way, that,
the alarm from those within and look-
e saw himself almost in the jaws of the
ver, he had the presence of mind in-
re; when the animal, being struck in the
ted, and was afterwards pursued and

reappearance of the sun had inspired
the weather would become continually

more mild and agreeable. It was, therefore, a severe disappointment, when, in February, a heavy north-east gale brought a cold more intense than ever, and buried the hut again under snow. This was the more deeply felt, as the men's strength and supply of generous food to recruit it were alike on the decline. They no longer attempted daily to clear a road, but those who were able went out and in by the chimney. A dreadful calamity then overtook them in the failure of their stock of wood for fuel. They began to gather all the fragments which had been thrown away, or lay scattered about the hut; but these being soon exhausted, it behoved them to carry out their sledge in search of more. To dig the trees, however, out of the deep snow, and drag them to the hut, was a task which, in their present exhausted state, would have appeared impossible, had they not felt that they must do it or perish.

In the course of March and April the weather became milder, and the attention of all the crew was drawn to plans and prospects of return. Southward, on the side of Tartary, the icy masses were still floating, but to the north-east there was an immense open sea. Yet the barriers which enclosed the ship not only continued, but, to their inexpressible grief, rapidly increased, probably from the fragments which floated in upon the breaking up of the great exterior mass. In the middle of March these ramparts were only 75 paces broad; in the beginning of May they were 500. These piles of ice resembled the houses of a great city, interspersed with apparent towers, steeples, and chimneys. The sailors, viewing with despair this position of the vessel, earnestly entreated permission to fit out the two

ats, and in them to undertake the voyage home-
ard. The master at length agreed, provided there
as no better prospect by the end of May. From
e 20th to the 26th a north wind came on, and
ew upon them a still greater quantity of ice; so
at they no longer hesitated to begin their work,
d to bring from the ship sails and cordage. The
re digging of the boats from under the snow was
ost laborious task, and the equipment of them
uld have been next to impossible, but for the en-
siasm with which it was undertaken. By the 11th
e they had the vessels fitted out, their clothes
ed, and the provisions embarked. Then, however,
y had to cut a way through the steeps and walls
e which intervened between them and the open
Amid the extreme fatigue of digging, breaking,
cutting, they were kept in play by a huge bear
h had come over the frozen sea from Tartary.
: length the crew, having embarked all their
es and provisions, set sail on the 14th with a
erly breeze. In the three following days they
d the Cape of Isles, Cape Desire, and came to
ge Isle, always working their way through
1 incumbering ice. As they were off Icy Cape,
ntz, long struggling with severe illness, and
feeling his end approach, desired himself to be
l up that he might take a last view of that
and terrible boundary, on which he gazed for
siderable time.

1 the following day the vessels were again in-
ed amid masses of drift-ice, and were so forcibly
k, as well as squeezed between opposite fields,
the men had bid a final adieu to each other.
ng, however, a body of fixed ice at a little dis-

tance. De Veer took a rope and leaped from fragment to fragment, till he arrived on the firm surface. A communication thus formed, they landed first the sick, then the stores and provisions, and, finally, they drew the boats themselves upon the ice. During this detention, Barentz, being informed of the severe illness of one Adrianson, said that he himself was not far from his end. As he continued, however, conversing and looking on a chart of the voyage made by De Veer, it was thought that his disease could not be so serious, till he pushed aside the chart, asked for a draught of water, and immediately expired. This event extremely afflicted the crews, both from their personal attachment to Barentz, and the loss of his skill in piloting the vessels.

The sailors, with some drift-wood, repaired the boats: the ice, however, was still close around, and they were struck with the fear that they would never escape from this bank, but must perish upon it. On the 22d, however, there appeared open sea at a little distance, and having dragged the boats over successive pieces of ice, they were again afloat. In the three following days they reached Cape Nassau, the ice frequently stopping them, but opening again like the gates of a sluice and allowing a passage. On the 26th they were obliged once more to disembark and pitch their tents on the frozen surface. On the opposite coast they saw immense herds of sea-cow (walrus), and the air darkened with numberless birds. While they were fast asleep in the tent, the sentinel called out, "*Three bears! three bears!*" The whole crew were instantly out; their muskets were charged only with small shot for birds; however, "these sweetmeats," though they could not

t any serious wound, induced the monsters to
when one of them was pursued and killed. The
bear was carried off in the mouth of one of the
vors to the most rugged parts of the ice, where
wo devoured a large portion of his carcass.
e year was now advanced; the bright light of
un and the occasional south-westerly breezes
ved the ice, and gradually opened a way before
. It brought, however, dangers of a new class.
distinction between fixed and floating ice had
almost ceased, the former melting continually
. As they thought themselves lying secure on a
field, a body of icebergs came in from the open
truck and dashed it to pieces. The packages were
ated from the boats, and several dropped into the
:. It was laborious to scramble over the detach-
agments to a place of safety, while the weighty
es sank into the softened ice, not without the
est risk of falling to the bottom. For twelve
s the sailors floundered through this loose and
en surface before they could establish themselves
ie field which was attached to the land.
ie 2d of July was the finest day yet seen in
a Zembla; and the weather continuing favour-
produced on the 7th an open sea, to which,
great labour, the men succeeded in dragging the
. From this time their progress, though often
ucted, was never entirely stopped. In several of
ocky bays they caught an immense number of
, these poor animals not having yet learned to
nan, and allowing themselves to be taken by the
. Near Admiralty Bay they saw two hundred
ows lying on a bank of ice, and attacked them;
hese powerful animals advanced to the combat,
ing and blowing in so tremendous a manner

time, had not a fresh wind sprung up, the mariners might have been in a serious predicament; and they repented bitterly, amid so many inevitable evils, to have brought on themselves one so very unnecessary.

On the 28th, after passing the Bay of St Lawrence, when they came near to the southern extremity of Nova Zembla, the navigators discovered with surprise and joy two Russian vessels at anchor. They approached, and were received with the usual courtesy of that nation. Several of the Russians recollected having met them in the former voyage, and were truly astonished, instead of the large and handsome vessels whose equipment they had so much admired, to see them in these miserable open boats, with meagre and wasted frames. After mutual presents, the parties agreed to sail together to Waygats, but were separated by a heavy gale. On a small isle the Dutch found abundance of cochlearia, or scurvy-grass, by the use of which the sick recovered in a manner almost miraculous. On the 3d August they steered their course to the south-south-west, and, though somewhat obstructed by ice, came on the 4th in view of the coast of Russia. They had a tedious but safe coasting-voyage to Kola, where, to their joyful surprise, they found John Corneliz, who received them with the greatest kindness, and afforded them a comfortable passage to Amsterdam. As no account was ever given of this commander's own voyage, it may be presumed that it did not lead to any important discovery.

The question as to a north-eastern passage was not yet considered as finally determined. The London merchants next took it up, and in 1608 fitted out Henry Hudson, who had already distinguished himself by a voyage to Spitzbergen, and proved one

of the greatest of the early navigators. The design of Hudson appears to have been, not to entangle himself in the straits and islands on the Russian coast, but to strike direct into the channel between Nova Zembla and Spitzbergen. He dropped down to Blackwall on the 22d April, and on the 3d June saw the North Cape, bearing south-west. He still pushed on to the north and east, till he reached the latitude of 75°, when he found himself entangled among ice. He at first endeavoured to push through, but, failing in this attempt, turned and extricated himself with only "a few rubs." On the 12th June he experienced a thick fog, and had his shrouds frozen; but the sky then cleared, and afforded bright sunshine for the whole day and night. On the 15th, Thomas Hilles and Robert Rayner solemnly averred, that, standing on deck, they had seen a mermaid. This marine maiden is described as having a female back and breast, a very white skin, and long black hair flowing behind; but on her turning round they descried a tail as of a porpoise, and speckled like a mackerel. It seems uncertain which of the cetaceous species suggested this fancied resemblance to the human form.

Hudson continued to push on eastward, varying according to the wind, between the latitudes of 74° and 75°. On the 25th, however, heavy north and north-easterly gales, accompanied with fog and snow, obliged him to steer south-easterly; and this course, on the 26th, brought him to the coast of Nova Zembla, in lat. 72° 25′. Here, seemingly with premature resignation, when June was not yet closed, he concluded that it were fruitless to attempt to hold this year a more northerly course; in place of which he resolved to try the *old and so* often vainly-at-

tempted route of the Waygatz. From this he was diverted by the view of a large sound, which appeared to afford an equally promising opening. On its shores also were numerous herds of morses, from which he hoped to defray the expense of the voyage. Nova Zembla, on the whole, seen under this Arctic midsummer, presented to him somewhat of a gay aspect. He says, it is "to man's eye a pleasant land; much mayne land, with no snow on it, looking in some places green, and deer feeding thereon." The sound, however, as might have been conjectured from the strong current which came down, terminated in a large river, and the boats soon came to anchorage in one fathom. The morses also, though seen in great numbers, could never be brought to close quarters. The ice now came in great masses from the south, "very fearful to look on;" and though, "by the mercy of God and his mighty help," Hudson escaped the danger, yet by the 6th of July he was "void of hope of a north-east passage," and, determining to put his employers to no farther expense, hastened home to England.

We know not whether the Muscovy merchants had been fully satisfied with the zeal displayed by Hudson in this expedition: for we find him in 1609 setting sail from the Texel under the auspices of the Dutch East India Company, whose hopes of a northern passage had again revived. On the 5th May he passed the North Cape, and on the 19th came in view of Wardhuys. Hudson, though so excellent a navigator, is a most unsatisfactory writer. His narrative, amid vague complaints of fog and ice, shows only that he determined to turn his prow and seek to repass the North Cape, whence he steered across the Atlantic to America. Forster says that he

ıed Nova Zembla, an assertion directly con-
· to the captain's own narrative, and inconsist-
vith the time spent in this part of the voyage.
rding to Constantin, the crew, consisting chiefly
ımen accustomed to seek India by the tropical
, were soon alarmed by the fogs, tempests, and
ng ice of the North. The truth is, Hudson's own
seems to have been fixed on north-western dis-
y. This appears from several hints in his second
tive; and he was probably inclined to content
lf, with a mere show of proceeding eastward,
apparently baffled, he might follow his favourite
ion. He seems to have been impressed with the
tation of finding an open sea between Virginia
Newfoundland; and in fact he discovered the
rtant bay which receives the river, called after
the Hudson, and on which New York has been
built;—but this lies out of our present sphere.
e Russia Company made afterwards some at-
ts to establish a factory on the Pechora; but,
persevering for two or three seasons, they re-
ished this undertaking.

1676, Captain John Wood, on his own san-
: representations of the probability of a north-
n passage, was sent out by the Admiralty in
peedwell. On the farther coast of Nova Zem-
owever, his vessel went to pieces, and the crew,
n shore, with difficulty reached their companion,
rosperous Pink, which afforded them a passage
ward. Wood, though he had done nothing to
r light on the question, brought home an impres-
respecting it so very gloomy, that the plan of
rating to India in this direction was thence-
rd given up, and has not been revived even in
ras of the most enthusiastic enterprise.

It may be proper in this place to notice the attempts recently made by the Russian government to complete the survey and exploration of Nova Zembla, to our knowledge of which little addition had been made since the time of Barentz. To effect this object, an expedition was sent in 1809 under Lieutenant Lazaref; but it encountered such formidable masses of ice, that the commander was obliged to return without in any degree effecting his object. Captain Litke was employed in the same undertaking in 1821, but the issue was almost equally unfavourable. In the following year, however, the same officer was again sent to sea; and after a pretty extensive survey of the coast of Lapland, came, on the 8th August, in view of Nova Zembla. During his progress along the western shore, he found it in general to correspond with the delineation given by Barentz, recognising in particular Admiralty Isle; after which he reached a headland supposed to be the Cape Desire of that navigator, but differing by about 15 degrees from the longitude which he had assigned to it.

Litke was sent out a third time in 1823, when he discovered that the promontory which he had imagined to be Barentz's Cape Desire, was in fact his Cape Nassau, and that the description of it given by this celebrated discoverer was extremely correct. In the same voyage he had an opportunity of examining the great strait, called Matotchkin Schar, which divides Nova Zembla into two parts, and found its length to be about 45 Italian, or 51¼ English miles.

His general conclusions are, that the southern part of the coast of Nova Zembla is low and flat; but that about lat. 75° there commences a chain of somewhat lofty mountains, the summits of which are

ith snow. The appearance of the country
nd miserable in the extreme; notwith-
which, the idea entertained by those who
as a mere mass of ice, occasionally sprin-
soil, was found quite erroneous. Captain
ght home with him specimens of the dif-
s and earths of which it was composed.
ne navigator was appointed once more in
instructions to reach and examine the
st; but, in attempting to penetrate be-
zbergen and Nova Zembla, he was com-
ulsed by the solid masses of ice with which
incumbered; while his attempt to make
y the Strait of Waygatz was equally de-
ontrary winds and by calms. Hence, not-
ng these spirited efforts on the part of the
vernment, no great accession has been made
wledge of that extensive insular territory.

CHAPTER V.

Early Voyages towards the North Pole.

Plan of a Polar Passage to India—Voyages to Cherie Isla Hudson—Poole—Baffin—Fotherby.

THE attention of the public, it has appeared been early drawn towards a Polar passage, w by striking directly across the ice and tempe that great boundary, might bring the navigat a shorter route than any other to the golden i of the East. Mr Robert Thorne, the zealou master of early discovery, in his memorials to VIII. and other great men, placed always fo the scheme of reaching India by this daring It was not wonderful, however, that such a should not be the very first direction of mod surprise. A century had elapsed from the di of the passage by the Cape of Good Hope, a that period since the commencement of the career of Britain, before her seamen, despai success by the more circuitous eastern and tracks hitherto followed, put forth all their st and attempted to penetrate this mighty n barrier of the earth.

Barents in his third voyage had discovered Bergen, called at first New Land, and aft Greenland: but it was by fishing expeditio English vessels were first attracted into th

les of the Greenland or Polar Sea. In 1603, man Sir Francis Cherie of London fitted out odspeed, under the command of Stephen Ben- emingly with a vague scheme of pushing into orthern seas in search of whatever fortune befall. Bennet began by the beaten track of orth Cape, Wardhuys, and Kola; from which ace, reversing his direction, he pushed north orth-west into the Arctic Sea. On the 16th st, at two o'clock, he descried two hills which d to rise above the clouds. In four hours he d the Bear Island of Barentz; and not aware, ld seem, of its previous discovery by that na- r, gave to it, from his own employer, the name rie Island. Here the sailors caught only two and a few fishes; for though they saw the of a morse, proving that those animals did there," the season was judged too far advan- commence operations against them. They ed by way of Kola and the North Cape, and l the Thames on the 15th October.

Francis, on the return of the ship, though e empty, judged there was encouragement to send out next year the same vessel and nder. Bennet, accordingly, not only went econd time, but made several successive voy- which the capture of the morse was carried h considerable extent and success.

le these fishing-voyages were going on, Henry n, in 1607, was sent out by the Muscovy ny to penetrate, if possible, directly across the It was the first occasion of this very bold at- and the first recorded voyage of this eminent tor. Hudson, who sailed on the 1st May,

after having cleared Scotland and passed the Hebrides of Iceland, took a direction westward, being desirous to survey the northern and unknown boundaries of Greenland, thinking there might be an open sea in that direction as likely as in any other. On the 13th June the ships were involved in thick fog, their shrouds and sails being frozen; but, when it cleared next morning, the sailors observed a high and bold headland mostly covered with snow, behind which rose a castellated mountain, named the Mount of God's Mercy. Rain now fell, and the air felt temperate and agreeable. They steered eastward to clear this coast; but, after losing the same time enveloped in fogs, again saw land, very high and bold, and without snow even on the top of the highest mountains. To this cape, in 79°, they gave the name of Hold-with-Hope.

Hudson now took a north-eastward direction, and on the 27th faintly perceived, amid fogs and mist, the coast of Spitzbergen. He still pushed northward, till he passed the 79th degree of latitude, where he found the sun perpetually ten degrees above the horizon, yet the weather piercingly cold, and the shrouds and sails often frozen. The ice obliged him to steer in various directions; but, embracing every opportunity, he pushed on, as appeared to him, to 81½°, and saw land still continuously stretching as far as 82°. But as the northern extremity of Spitzbergen does not lie beyond 81° of north latitude, he must here have committed some mistake, either in his latitudes or in mistaking for land extensive fields and masses of ice. It has been supposed that he had again reached the opposite coast of Greenland; but this seems inconsistent with his

igs, which are always more or less to the east-
. The latitudes of 81° and 82° he considers to
completely barred with ice as certainly to de-
ll attempts at a passage to the Pole in this di-
n. It appeared to him, however, that these
might be frequented with great advantage on
nt of the immense multitude of seals with
h they abound. He returned, coasting along
bergen, some parts of which appeared very
able; and on the 15th September arrived in
Thames.

e Muscovy Company, still the most enterpris-
aritime body in England, determined yet to fit
nother expedition for Polar discovery. They
ted it to Jonas Poole, who had distinguished
lf in the Cherie Island voyages; and it was
l to him, that though discovery was to be his
object, yet he might catch at intervals some
, and even one or two whales, to make the
: defray its own expenses. Poole took his de-
e in due season, sailing from Blackwall on
: March, 1610. By the 16th he had reached
ast of Norway, in lat. 65°; but the wind then
om the north so "extreme fierce, with great
f snow and frost," and the vessel was so laden
e, that it could not maintain a "fore course,"
s driven back as far as Scotland. Here he
ed till the 12th April, when, favoured by a
ly breeze, he again set sail, and after many
snows, and extreme frosts, came in view, on
May, of the North Cape. He then steered
erie Island, near which he judged himself to
he 6th; but the fog was such that he could
a cable's length, and "the ship had many a

knock; but, thanks be to God, no harm was done!" Continuing to beat about in this obscurity, he entirely missed Cherie Island, and the first land seen was in 76° 50′, being the shores of a sound on the coast of Spitzbergen, which, from the deer's horns found there, he named Horn Sound. He pushed on to 77° 25′, where he found the air more temperate than he had felt it at the North Cape at the same season. Soon, however, there was a complete reverse; the ship was involved in thick fogs,—and wind, frost, snow, and cold, seemed to strive for the mastery. After many a sore stroke he got the vessel through; but the mainsail was still "frozen as hard as ever he found any cloth," and could with great difficulty be set. He discovered an island, which he called Blackpoint, and the nearest promontory he named Cape Cold; but next day the weather changed so entirely, that had he fallen in with it then he would have given it a gentler appellation; therefore he called another cape Fair Foreland. Poole's views continued to brighten, when he found that the sun, as the season advanced, gave a most powerful heat; that the ice was melted on the ponds and lakes, while that which still floated on the sea was not nearly so huge as he had seen it in 73 degrees. He conceived favourable hopes, therefore, even after so sharp a beginning, and judged that a passage by the Pole was as likely to be found in this as in any other unknown direction. He might therefore have been expected to apply himself in the most zealous and determined manner to seek the passage. A large herd of morses, however, having come in sight, he despatched his crew in pursuit of them; and from this time

is not another word of discovery,—but the
; of the walrus and the deer, and now and
he attack of the whale, absorb his whole at-
a. He met with some dangers. One day he
ed a herd of morses lying on ice, which proved
, and suddenly broke, whereon ice and beasts
to the sea together, and the crew had great
lty in not going along with them, especially
an; for, besides being crushed by the weight
d morses and ice, the animals that were alive
at him in the water and severely bruised
Upon the whole, he judged Spitzbergen to
der than Cherie Island, and was surprised at
at number of deer, and at the care of Provi-
which enabled them to subsist on so little
ge, with only the rocks for a house, the starry
for a covering, and not a bush or a tree to
them from the nipping cold of winter.
ough Poole returned from this voyage with-
ng done or almost attempted any thing, yet,
ought a considerable store of oil and morses'
is employers were not ill satisfied. They
im out next year in the Elizabeth of 50
d in their instructions distinctly informed
: discovery was to be his main object; yet
d, that as he proceeded with the Mary
t, destined for the whale-fishery, he might
th joining her in taking a whale or two,
is course along the coast kill as many morses
t chance to present themselves. Having
l the oil, he was to floor the hold with their
nich a tanner had agreed to purchase of the
y; but all this only to lighten the cost of dis-
nd not to be in any degree a primary object.

The vessels set sail early in April, 1611, t
soon separated by fogs and storms; and wh
reached the coast of Spitzbergen, he found o
boats escaped from the wreck of the Mary J
In the rest of his proceedings we never hea
word of Polar discovery; but he applie
most diligently to the secondary object; and
of August he had accumulated oil, morse s
teeth, to the extent of 29 tons,—a good l
observes, for a ship of 50. Accordingly
her ruin. As the last package was broug
went entirely to one side, and all the mo
which lay loose in the hold, slipping in the
rection, carried her entirely under wate
who sat in the cabin, considered himself
only the selection of two deaths, either to l
ed by remaining, or, in attempting esc
killed by the casks, staves, and divers ot
which were traversing the ship in every
He chose the latter alternative as the lea
and, though twice beaten down, was plu
the jaws of death, being enabled to craw
only his skull laid open, and his ears, back
severely bruised. The crew, who all esca
taken on board a Hull ship commanded b
Marmaduke, of whom Poole makes many co
which Purchas, thinking too diffuse, ha
Of Greenland in general Poole observes, t
he went first, the mountains and plains w
white with snow; afterwards they appea
with grass and a little moss; but, lastly
with his powerful heat dissolved the ice, a
ed such a profusion of vapours, that the
differed little from the darkest night elsew

He was, nevertheless, sent out a third voyage in 2, with two vessels, the Whale and the Seahorse; he seems on this occasion also to have busied mself solely in the attack of whales, which he lled to the amount of thirteen. Nothing is mened of any thing being either attempted or proed in relation to discovery; but he relates that mes Marmaduke penetrated to the latitude of P. No detail, however, is given, nor have we any tive from Marmaduke himself; which is to be gretted, as he seems to have been more deeply med with the spirit of discovery than any other iner of that time.

The next expedition was in 1613, under William lin, the most learned navigator of the age, and e of the greatest names in northern discovery. was not, however, by this voyage that he obned his reputation, though he was provided with good and well-armed ships; the object seems to ve been little else than to chase from the Greend Seas all other vessels that might attempt to use m for fishery. Their system was, whenever they l in with a foreign vessel, to summon the master board, show the king's commission granted to worshipful Company, and desire them to depart, pain of having a cannonade immediately opened m them. The strength of the English being in neral decidedly superior to that of any other squam that appeared in those seas, these terms were ually acceded to without any attempt at opposition. one time, indeed, five vessels, Dutch, French, d a large one of 700 tons from Biscay, mustered, d showed signs of offering battle; but the Bisyner having lost courage and yielded, the rest were

obliged to follow his example. Another Du having refused, and endeavoured to mak brink a fire was opened upon her, that she h ly run on shore, and was fain to submit. derable number of English sailors seem to h on board these foreign ships, who were a ever they could be found, forcibly taken seems difficult to discover on what ground lish founded their right to these coasts, s had neither been the first discoverers, nor l in any sort of occupation. In fact, they able ultimately to make good the pretei sumed in so violent a manner.

There is no mention of any anxiety or Baffin for the purpose of discovery. Or trary, Marmaduke, who had been again a to penetrate to the north of Spitzbergen, den as having thereby hindered the voyag prohibited from any farther attempts of this season. The former, however, made rious, and at that time novel, observations fects of refraction in high northern latitud

The Company still did not consider th of a northern passage decided, as indeed, time of Hudson, it could not be said to seriously attempted. In 1614 they appo bert Fotherby, in the Thomasine, to a their great Greenland fleet of ten ships an naces, and while the rest were busied in devote himself mainly to discovery. Bafl panied him as pilot. After considerable tions, eleven ships being at one time fast a ice, the captain, by the 6th of June, pus Hakluyt's Headland. He endeavoured

te through Magdalena Bay, which he calls Maud-
Sound; but the weather was foul, and the ice
unbroken from shore to shore. On the 10th,
weather permitting, he stood farther out, and
ceeded in passing to the north of Hakluyt's Head-
d; but the ice now presented an impenetrable
rrier. Fotherby then steered westward, in hopes
a more favourable opening; but the ice trending
th-west, he sailed twenty-eight leagues without
ccess, and then returned to the Foreland. About
middle of July, the air becoming clear and fa-
rable, the commander and Baffin ascended a high
l, to see what prospect there was of getting for-
d; but, as far as they could discern, ice lay upon
sea, which indeed seemed wholly "bound with
," though in the extreme distance there was an
earance of open water, that inspired some hope.
er amusing themselves for some days with whale-
ling, they again mounted a very high hill, whence
y saw an extensive sound, but much pestered
th ice. This was Sir Thomas Smith's Sound,
hich they afterwards ascended to its head, and
nd a good harbour, very advantageously situated
r the whale-fishery.

It was now the 9th of August, and Fotherby saw
o Dutch ships, that had been appointed for north-
n discovery, making their way southward; but
e was determined not to be baffled without some
rther struggle. He pushed to the northward from
ape Barren, and had made twenty-four leagues,
hen he met the ice. He coasted along it for two
ays, hoping for some adventure among its shatter-
d fragments; but a north wind sprang up, with
eavy snow, and every thing being cold, thick, and

er-like, he was forced again into harbou
snore and hill being now covered with s
mariners became possessed with a desire o
ing to England; but Fotherby was unw
depart without some farther satisfaction.
in a boat up Redcliffe Sound, and thoug
newly formed upon it, of about the thickn
half-crown piece, he pierced through, and
open water. The snow, however, continu
thick, and the east wind blew in the ice so
that they were glad to return to the ship.
a point, it was observed that a cross which
erected, with the king's arms and a sixpen
upon it, had been taken down, "sixpence
by the Dutch, and Prince Maurice's arm
tuted; this, however, was speedily redress

About the end of August a gale sprang
the south-west, and brought milder weat
at any former period of the season; and th
of the thaw was proved by the huge mass
from the snowy banks into the sea with a
thunder. Conceiving better hopes, Fotherb
out again, in a north-west direction, till
nearly to the latitude of 80°, when he heard
noise of the waves, as it were, breaking on
sive shore. It proved, however, that he wa
the margin of the great northern ice. H
for some time along that grand barrier;
soon embayed, and with difficulty extricat
season advancing he took the benefit of a nc
to steer homewards, and on the 4th Octob
at Wapping, with his whole crew of twenty
in perfect health.

Fotherby, having recommended himsel

by spirit and diligence, was sent out next year by the worshipful Company, in the Richard, ce of only twenty tons. After many conflicts ce and fog, he reached Hakluyt's Headland the beginning of July. He soon began his of discovery; but a strong southerly gale driv- n upon the ice, shattered his bark consider- nd obliged him to return. As soon as his was refitted, he endeavoured, by a westerly , to find an opening among the ice, which pro- in various points and capes, but remained still nd he found himself pushed by it southwards latitude of 76°. We soon find him still far- est, on what he thought should have been thern part of Hudson's Greenland; and sea- n vast flocks seemed to indicate land, but the so thick, "that he might easier hear land e it." However, about lat. 71½°, the air clear- descried a snowy hill very high amid the , and the fog lying on each side made it ap- ke a great continent. It proved, however, to an island, probably Jan Mayen; and as the presented nothing but drift-wood, and ap- as if fortified with castles and bulwarks of o shelter was afforded from a heavy gale which to blow. This induced him to stand out again

He regained the northern point of Spitzber- nd began to beat for a Polar passage. The however, blew so strong from the north-north- at he gave up the attempt, only resolving, on y home, to take a survey of Hudson's Hold- Hope. He came to the place where it ought been, but finding no land, he insisted that n must have been mistaken in the position

assigned to it,—a suspicion which has been recently confirmed by Mr Scoresby. Availing himself then of a brisk northerly breeze, he sailed for England.

Fotherby, on being asked as to the prospects of a passage through these seas, replied, that though he had not attained in this respect his desire, nothing yet appeared to exclude hope. There was a spacious sea between Greenland and Spitzbergen, though much pestered with ice; and he would not dissuade the worshipful Company from a yearly adventure of £150, or £200 at the most; and the little pinnace, with ten men, in which he had sailed two thousand leagues, appeared to him more convenient for that purpose than vessels of larger dimensions. A very long period, however, elapsed before any attempt of this nature was resumed.

CHAPTER VI.

Early Voyages in Search of a North-West Passage.

Portuguese; The Cortereales—The Spaniards; Gomez—Expeditions under Henry VIII.; Their Issue—Frobisher's First, Second, and Third Voyages—Davis' First, Second, and Third Voyages—Weymouth—Knight—Hudson; Mutiny of his Men; Disastrous Issue of the Expedition—Voyages of Button—Gibbons—Bylot—Baffin—Jens Munk, the Dane—Fox and James—Knight and Barlow—Middleton, &c.

NOTWITHSTANDING the early, repeated, and vigorous efforts to discover a passage by the east and north-east, the West was the quarter which finally drew with the grandest series of naval enterprise, and lingered the nation longest with the hope of this signal discovery. The maritime world were yet very little aware of the immense breadth of America at its northern limit. That continent was long imagined to terminate in a cape, after rounding which, and passing through the Strait of Anian,—an imaginary channel, supposed by the early geographers to separate America from Asia,—an entrance would be opened at once into the Pacific, and the navigator might proceed full sail to Japan, China, the Spice Islands, and all the regions abounding in Indian wealth.

Portugal first, of the European nations, had embarked in the career of ocean-discovery. Her monarchs and princes devoted their most anxious study

and all the resources of their kingdom to double the southern point of Africa, and thereby to overcome the obstacles opposed by that continent to a direct commerce with India. Their efforts were crowned by the discovery of the passage by the Cape, through which the trade and treasures of the Eastern World became theirs. This would have been the most brilliant maritime enterprise ever performed, had it not been rivalled by the contemporaneous discovery of America. Enough might seem to have been done, both for the benefit and the glory of Portugal, without directing the national resources into any other channel. Yet one of the most illustrious houses of that kingdom, with much enthusiasm and no small loss, devoted itself to western navigation. We allude to that of Cortereal; for a member of which, John Vaz, somewhat doubtful claims have been advanced as having reached the shores of Newfoundland some time before the celebrated voyages of Columbus or Cabot. In 1500, his son Gaspar, immediately upon the discovery of the Western World, resolved to follow in the steps of Columbus. Having obtained from the king two vessels, he touched at Terceira, one of the Azores, and proceeded in a north-west direction, endeavouring to find his way to India by some of the higher latitudes. Respecting the details of this voyage there remain only detached notices, which Mr Barrow has collected with learning and diligence. He reached the coast of America in about 50° north latitude, probably on the northern coast of Newfoundland, where he found a bay containing numerous islands, which he calls the Golfo Quadrado,—probably the Straits of Belleisle. He then steered northwards, and passed

a coast which Europeans have since commonly
Labrador, but which in the early maps bears
him the name of *Corterealis*. In some of the
tives this coast is called *Terra Verde* (Green-
, but it has nothing in common with the coun-
which Europeans have still more improperly
l that name. The territory is represented as
stocked with timber,—a description which
s to the spacious forests of fir and pine that
the region immediately north of Canada.
natives are correctly described as a mild and
ous race;—and no less than fifty-seven being
d, or carried on board, were conveyed to Por-

After a run along this coast, estimated at
700 miles, Cortereal came to a region which
red to preclude any farther progress. Ramusio
d states the highest latitude attained as only
which would place the vessels near the entran-
nto Hudson's Bay. But the season was now
what advanced; and the approach of the Polar
r, the floating mountains of ice, the thick snows
h filled the air—all the gloomy characteristics
Arctic climate—must, to a crew accustomed
o navigate the warm and temperate seas, have
red peculiarly terrible. It was judged abso-
necessary to return to Portugal, and Corte-
rrived at Lisbon on the 8th October, 1501.*

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e view here taken of Cortereal's voyage, as extending along
st of Labrador, has been lately contested, and even treated
absurd hypothesis" by the anonymous author of "A Memoir
stian Cabot." He maintains that the most northern point
l by that navigator was in the Gulf of St Lawrence, or at
t the southern extremity of Labrador. This question, relat-
ne of the most illustrious martyrs in the cause of early dis-
seems to merit some attention. It may be premised, that
pothesis can with no propriety be called *ours*, since it is the

That this necessity, however, was considered to arise from the season only, and that no general

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general belief of modern geographers, expressed by the very name of *Terra Nova* and *Labrador*, always applied to this coast. Doubtless it was pertinent upon the author, if he could, to disprove this opinion and establish his own: but it is conceived that a very few observations, founded in a great measure on documents produced by himself, will prove it to be palpably erroneous.

First. The voyage is allowed on all hands to have been directed towards the north, and with a view to northern discovery. But as the shores lay westward, the direction would of course be modified accordingly, and we may accept the statement of the Italian manuscript, that it was *per mezzo e ponente* (between north-east and west). But such a course, either from Lisbon or Terceira, could scarcely be compatible with his reaching any point south of the St Lawrence, certainly not one which would admit of 600 or 700 miles of northern navigation before reaching that river. By supposing one degree of northern for every four of western sailing we should make him reach America in about the latitude of 60 degrees, which would place him on the northern coast of Newfoundland.

Second. The mild and laborious character ascribed to the natives (*molti mansueti—grandi e ben fatti*) presents the most striking contrast to the fierce and proud intolerance of the North American Indians; it applies exclusively to the Esquimaux tribes. The habit of subsisting almost wholly on fish, the clothing formed almost entirely of seal-skin, the rending of the huts with skins of fishes, are practices which, occurring to such an extent, become strikingly characteristic of shores inhabited by Esquimaux.

These two first observations concur to render our conclusion highly probable: the *third* seems to remove every shadow of doubt. After sailing along this coast six or seven hundred miles, the navigator was arrested by a frozen sea and prodigious falls of snow (*mare congelato e infinita copia di neve*), he then sailed homewards, and arrived at Lisbon on the 8th of October. Hence the above phenomena, marking the setting in of the utmost severity of an Arctic winter, must have presented themselves not later than the middle of September. Surely no one at all acquainted with the phenomena of climate can concur with the author of the Memoir, in the supposition that at that season the expedition could be arrested, in the manner above described, in the Gulf of St Lawrence.

Respecting the latitude reached by Cortereal, there occur two different statements. Some make it 60°, others 60½°. The author zealously adopts the former, considering it as the ultimate point reached by that navigator. So anxious is he to accumulate authorities upon this head, that he quotes first *Gomara* and then *Faria*, as if they had been separate authors, although he knows the one to be only the translator of the other. The truth is, there is not the slightest discrepancy between the statements. There are two positions to be considered; that at which Cortereal first touched

uck into the mind of this intrepid na-
sufficiently testified by his appearing
xt season with two vessels, which he
tly to the most northerly point of the
ge. Here he is described as entering a
on's perhaps, or more probably Frobish-
this critical point of the voyage the
separated by a tempest, and probably
ng ices with which these straits are in-
of them succeeded in extricating itself,
for some time in vain for its lost con-
t which had on board the gallant leader
ition returned no more, and no trace
obtained of its fate.*

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ast; and the one where, after sailing 600 or 700
ted his coasting-voyage. The latitude of 50° seems
espond to the first point, where he found the *Golfo*
xtensive pine-forests, and the country wearing a
The very expression of Galvano, that "he sailed
which standeth under the north in 50 degrees,"
is as the latitude at which America was reached;
eady observed, agrees exactly with the direction
eal sailed from Portugal. The latitude of 60°
clearly to be the most northern point, where his
rested by the frozen sea, and the air filled with
; and it is remarkable, that ten degrees, the dif-
these two latitudes, corresponds exactly with the
00 miles, which he is represented to have sailed
can coast.

re that seems at all to support our author's hypo-
hich indeed he seems to place his sole reliance, is
smiling aspect which the navigators ascribed to this
es not exactly correspond with our ideas on the
truth is, that certain tracts wholly uncultivated,
hbourhood of the Arctic circle, exhibit, when ar-
mmer robe, an appearance peculiarly pleasing. The
, the profusion of wild flowers, and the bushes
ious berries, compose a gayer scene than is dis-
southern shores that are covered with the dark
pical foliage.

it a somewhat hasty conclusion, formed by the author
Cabot, that "it cannot be doubted that the objects
ond voyage were timber and slaves." This seems

When these gloomy tidings were conveyed to Portugal, Miguel Cortereal, a younger brother, animated with the most tender affection to Gaspar, and with a congenial spirit of enterprise, determined to depart in search of him. Early next spring, having equipped three vessels, he sailed on the 10th May, 1502, from the port of Lisbon. On arriving at the numerous openings into Hudson's Bay, the captains adopted the plan of separating and each exploring a particular inlet. This, however in some respects promising, was an imprudent step; for nothing could have more conduced to mutual safety than to have kept close together, and aided each other in those dreadful exigencies to which this navigation is liable. It proved a fatal measure; two of the vessels indeed met and returned; but Miguel and his crew shared the fate of those whom they had gone to seek,—they returned not; and it was never known where or how they perished. The survivors reported at Lisbon this heavy aggravation of the former distress.

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to harmonize very ill with the character of the navigator, and the lofty spirit of Emanuel, by whom he was employed. These objects appear, indeed, from the letter of a Venetian ambassador, to have been mentioned, but chiefly, we suspect, to satisfy that class of persons who considered mercantile profit as the only legitimate object of maritime discovery. Osorio, a very eminent Portuguese historian, who wrote the history of Emanuel's reign under the sanction of one of his sons, gives a very opposite view of the motives of Cortereal. He says, in regard to the first voyage, "Gloriæ cupiditate vehementer incensus, ad sui nominis memoriam posteris aliquo facto memorabili prodendam pertinere arbitratus est." (Powerfully inflamed by the desire of glory, he thought it concerned him to transmit his name to posterity by some memorable exploit.) In regard to the second voyage, the observation is:—"Cùm ad spem multò plura cognoscendi raperetur—ut latiùs littora illius omnia pervagaretur, et gentis mores et instituta perdisceret." (Being urged by the hope of obtaining more extensive knowledge—that he might traverse more widely all the shores of that country, and might learn thoroughly the manners and customs of the people). De rebus Emanuelis, &c., 63.

affection and daring courage seem to have
t characterized this noble race. There was
l brother, Vasco Eanes, who besought of
permission to search for his lost kindred
the abysses of this vast ocean; but to this
yal veto was absolutely interposed; the
ring that it was too much to have lost in
wo of his best and most faithful servants.
nmencement so gloomy, and such gallant
e in vain, it does not appear that the pro-
orthern passage was ever revived in Por-

hich had made the discovery of America,
that success derived so much glory and
ght have been expected to take a peculiar
every thing connected with its farther
. The fact however appears to be, that,
mong the rich plains and glittering trea-
lexico and Peru, she felt little attraction
e bleak confines of the Northern Pole.
very early voyage is mentioned, that,
hich was undertaken, in 1524, by Go-
the view of discovering a shorter passage
luccas. He appears to have touched at
land, sailed along the coast of New Eng-
as the 40th degree of latitude, and return-
voyage of ten months, bringing with him a
natives, but without making any material
the information collected by Cabot.
at last assumed the task of discovery, and
lmost exclusively her own. Her efforts
re long in vain;—the barriers of nature
mighty;—and America, stretching her
s into regions that lie beneath the perpetual

sway of the northern tempest, afforded only a precarious and doubtful navigation. England, however, has since earned high glory in this career; she has formed in it some of her greatest naval commanders, has opened new channels for fishery, fixed the limits of the western continent, and explored the wide seas and large islands which range along its northern boundary.

There was, however, even in this country, a pretty long suspension of exertion in the cause of maritime discovery. Henry VIII., as we formerly observed, showed from his first accession almost an entire absence of the zeal manifested by his predecessor; and Sebastian Cabot, who had earned perhaps the highest name in Europe for naval skill and enterprise, found it impossible to obtain support and patronage, unless by transferring his services to the court of Spain. Amid this neglect, however, he seems to have preserved the strongest attachment to his native country. He repaired thither in 1517, and prevailed upon Henry to fit out an expedition with the usual object of discovering a new route to the East. Unfortunately the command was intrusted, not to Cabot himself, the early and able leader of such expeditions, but to Sir Thomas Pert, who held indeed the high rank of vice-admiral of England, but seems to have been destitute of the qualities requisite for this peculiar and arduous field of enterprise. Cabot was allowed to act only as pilot; yet in this capacity he guided the vessel, according to his own statement in a letter to Ramusio, to the latitude of 67½° N.; and the researches of the author of "A Memoir of Sebastian Cabot" have even given reason to conclude that he actually en-

ed Hudson's Bay, and was ascending what has ce been called the Fox Channel. He considered e voyage to that period as quite prosperous, and clares that he both could and would have gone to ntain (China); but the courage both of the com-nder and crew appears to have failed, and they fused to proceed any farther. Henry, through the nsuccessful issue of this voyage, seems to have en confirmed in his previous apathy on this sub-ct. Cabot was again obliged to have recourse to pain, and was soon after created grand pilot of that ngdom; nor did he return to England till the pe-iod of Henry's death.

Ten years after, the king, through a strong re-presentation by Mr Thorne of Bristol, who almost nts that, on account of his indifference on this bject, he was unworthy to reign, was induced to t out another expedition for the same object. The ecords of it are most imperfect; though the author f the "Memoir" has found that the names of the essels were the Mary and the Samson, and that hey reached the latitude of 53° N.; but, having pro-bably set out too early in the season, they were ar-rested there by ice and snow, and turned to the outhward. One of them appears afterwards to have touched at Porto Rico.

This undertaking was followed, nine years there-after, by another set on foot by Mr Hore of London, a wealthy and enterprising individual, who easily induced thirty young gentlemen of family and for-tune, some of whom were from the Inns of Court, to embark along with him. In this case Hakluyt had equally to lament the absence of written records; but he found out Mr Oliver Dawbeny, who sailed

in one of the vessels; and having learned that a son of Sir William Buts of Norfolk had been of the party, and was still alive, he rode two hundred miles for the purpose of conversing with that gentleman. From these sources he collected, that this gay band of volunteers mustered in military array at Gravesend, and, having taken the sacrament, went on board. They had a long and tedious voyage, during which their buoyant spirits considerably flagged. At the end of two months they reached Cape Breton, then held as part of the West Indies; whence, in fulfilment of their views, they endeavoured to shape a more northerly course. They reached Penguin Island, the same probably since called Birds' Island, abounding so remarkably in fowls as large as a goose, and even in bears, which made such tolerable food that all their wants were supplied. Having proceeded to Newfoundland, Dawbeny one day called on his comrades to come and view a boat with the "natural people of the country," whom they had earnestly desired to see. A barge was fitted out to treat with them; but the savages, alarmed, fled precipitately, relinquishing the side of a bear which they had been roasting; and all attempts to overtake them were fruitless. This coast appears to have been singularly barren and desolate. Food, it was said, could be procured only by purloining from the nest of an ospray the fish collected for her young. It seems strange that they should have remained on this shore; but famine soon rose to such a pitch as to drive them to a most frightful extremity. Several of them waylaid a companion, killed him, and deposited his flesh in a secret place, to which they repaired, and hav-

roasted it in successive portions, eagerly fed
it. An accident betrayed this dreadful secret.
of the company, walking with another, smelt
savour of broiled meat, and reproached his com-
with keeping a private hoard, while others
in such fearful want. They came to high
when the guilty person said, "Well, if you
have it, it is a piece of ———'s flesh." This
reported with horror to the captain, he called
ether his crew, and solemnly representing to
the dreadful guilt they had incurred, obtain-
a promise to desist. The famine, however, be-
always more cruel, they were at length
to a systematic mode of carrying on the same
course, and had arranged the casting of lots
decide whose life should be sacrificed to save the
when a French ship appeared in view. Find-
it to be both in good order and well stored with
provisions, the English scrupled not to attack and
it, recommending the ejected crew to the ill-
provided bark which they themselves had left. They
made their way in all haste home, which they reach-
in the most squalid and miserable state. So
changed was young Buts that neither Sir William
nor his mother could recognise him, till he display-
a secret mark which proved him to be their son.
Meantime the Frenchmen arrived in their own
country, and raised loud complaints against the
cruel and unwarrantable manner in which the Eng-
had treated them. Henry, unable to deny the
extreme hardship of their case, yet moved with pity
towards his own subjects, whom he was unwilling
to punish, liberally paid from his private purse the
full extent of the loss.

From so slight a narrative, it were rash to form any very positive conclusion; yet we cannot help observing, that there is little appearance of the adventurers having gone out duly prepared for their hard and arduous undertaking, and little display of nautical skill, prudence, or good conduct, in the whole of the expedition.

After so disastrous a trial, the spirit of western discovery slumbered. The great zeal kindled in the succeeding reign of Edward VI. turned wholly to the eastward, producing the voyages of Sir Hugh Willoughby and others, which have been recorded in a former chapter. It was otherwise with the spirit of enterprise which revived under Queen Elizabeth. That princess, however, though abundantly inclined to favour whatever might contribute to the glory and interests of her kingdom, did not originate or prompt any of these schemes. Sir Humphrey Gilbert and Mr Richard Willis wrote treatises, where learned observations were combined with fanciful reasonings and erroneous reports; but all calculated to influence the public mind in support of such undertakings. The first voyage was planned and conducted by Martin Frobisher, an officer who afterwards distinguished himself by naval exploits in every quarter of the globe, but who earned his early fame by contending with the snows and tempests of the northern deep. Frobisher, regarding the western passage as the only great thing still left undone in the world, solicited for fifteen years, in city and court, the means of equipping a small flotilla capable of accomplishing this important object. The mercantile bodies manifested a coldness very unlike the zeal displayed on former occasions;

ome leading men at court were at last more ious, and, through the favour of the Earl of vick, Frobisher was enabled, in the year 1576, ip three vessels, respectively of 35, 30, and ns. These little barks, or rather boats, seemed ted for ploughing the Arctic deep; yet Mr sby has observed, that such vessels are better lated for threading their way through chan- bstructed by ice, and even for withstanding what rude shocks from it, than larger and more eldy fabrics.

obisher, on the 8th June, dropped down from ford to Greenwich, where the court then re- , and, in passing by the palace, fired a round s best style. The queen looked from the win- , cheering and waving her hand, and Secretary singham came on board the vessels, wished them ss, and exhorted the crews to good order and ience. On the 12th the expedition passed Til- Hope, and having on the 19th reached Yar- th, stood thence out to sea. On the 26th, Frobi- saw before him Swinborne (Sumburgh) Head, bold southern promontory of Shetland, while he Fair Isle to the north-west. In the ocean-na- tion which followed, he has only recorded his nces, latitudes, and directions. On the 11th he saw a range of awful and precipitous sum- which, even in the height of summer, were all e with snow. He concluded this coast to be Friesland of Zeno, but in fact it was the south- point of Greenland near Cape Farewell. A boat out towards the coast, but found it so barred ice and obscured by fog that it was impossible and. The navigators now steered westward,

suffering severely from northerly gales. On the 14th the wind shattered their fore-yard, and bore the mizzenmast overboard; and on the 16th the topmast with its sail broke off, and fell into the sea. They continued to press on; and upon the 22d a thick mist dispersing, showed a long range of coast, judged to be Labrador. Ice, however, formed an impassable barrier between them and the land, while the line went down 100 fathoms without touching the ground. The current was very strong, but, from the impossibility of coming to anchor, could not be measured; yet it seemed not less than a league and a half an hour. On the 1st August the discoverers approached to make observations on a large island of ice, which, as they were viewing it, went to pieces, and fell into the sea with a tremendous crash.

On the 18th they reached a more accessible coast, and became desirous to ascertain if it was inhabited. Seeing seven boats plying along the beach, they sent out one of their own, the crew of which, by holding up a white cloth, induced a canoe to approach; but on seeing the ship the natives immediately turned back. Frobisher then went on shore, and, by the distribution of several little presents, enticed one of them to come on board. This person being well treated with meat and drink, made on his return so favourable a report that nineteen followed his example. The sailors had then a full opportunity of observing this Esquimaux race. They are described as "like to Tartars, with long black hair, broad faces, and flat noses, having boats of seal-skin, with a keel of wood within the skin." Next day they appeared more shy, and with some difficulty one of

, by the allurement of a bell, was drawn on
1. Frobisher, having no intention to detain
sent a boat with five men to put him on shore
e angle of a rock; but these, urged by curio-
and blinded by false confidence, went on to
the main body of the natives—a fatal step;
were never allowed to return. Frobisher spent
days firing guns, and making inquiries at every
, but without success.
the 26th August, without any very particular
n assigned, our navigator weighed for home;
, passing by Greenland and Iceland, and com-
view of Orkney, the Texel, and Yarmouth,
ached Harwich in the beginning of October.
obisher had made little progress towards a west-
assage; yet, having with such slender means
rated thus far and discovered a new country,
fied with the title of Meta Incognita, his voy-
was considered highly creditable, and as af-
ng good promise for the future. The public
est was excited by another circumstance of a
illusory nature. All his friends importuned
to give them something or other which had
from Meta Incognita. At a loss to satisfy this
ity, he cast his eyes on a large stone which,
its glittering appearance, he had been induced
ke on board. He broke it into pieces, and dis-
uted them among the circle of his acquaintan-
One portion was received by a lady, who hap-
ed to drop it into the fire, where, after burning
some time, it appeared to glitter like gold. Be-
thereupon carried before the goldsmiths, they
re so ignorant, or so misled by the enthusiasm of
age, as to pronounce it a valuable ore of the most

precious of metals. This false decision threw all England into a ferment of joy. There was no difficulty now in equipping an expedition. The queen contributed the ship Ayde of 180 tons, besides means for enabling Frobisher to fit out two other vessels, the Michael and Gabriel, of 30 tons each. Being invited to visit the queen at Lord Warwick's seat in Essex, he received her majesty's hand to kiss, with many gracious expressions.

Frobisher sailed on the 26th May, 1577, with such a "merrie wind" that on the 8th June he touched at the Orkneys for fresh water, allowing his gentlemen and soldiers to go on shore for recreation. The poor inhabitants, having, it is probable, suffered from the inroads of pirates, fled from their houses with cries and shrieks; but were soon, by courteous treatment, induced to return. Their accommodations were found truly miserable; they had no vent for smoke, but a fire in the middle of the house, on one side of which dwelt the family, and on the other the cattle,—oatcakes and ewe-milk their only food. The English now entered on their perilous voyage through the Northern Ocean, during which they were much cheered with the perpetual light, as it allowed them at all hours to read or otherwise amuse themselves; which is observed to be peculiarly cheering to such as "wander in unknown seas and long navigations, where both the winds and raging surges do pass their common course." They were surprised to see large fir-trees, torn up by the roots, floating in the midst of the ocean. On the 4th July, Friesland presented its awful front, consisting of a range of inaccessible mountains entirely covered with snow,

; where, from the extreme steepness of the
it had broken off and fallen into the sea.
ıg four days' sail they saw, whenever the
fogs for a moment dispersed, a similarly dreary
without any landing-place, and without a
›f human habitation or even of life; yet little
, apparently bewildered amid the mist, came
alighted on board, and gave the impression that
might be a milder region in the interior. But
nexperienced part of the crew were especially
:k by the islands of ice, rising thirty or forty
›ms above the water, and rooted at the bottom
as which the line could not fathom.
robisher now sailed across to Labrador, and
hed at a sound which received his name. The
, however, was found guarded by a mighty wall
e, which the ships could not penetrate; but the
ain, with two of his boats, worked his way into
strait, and began to survey the country and
›le. So crude were then the ideas respecting the
graphy of these regions, that they imagined the
it on their left to be America, and that on their
it Asia. Landing on the American side they
mbled to the top of a hill, and erected a column,
ch, after the great patron of the expedition, was
ed Mount Warwick. On their return cries were
rd like the lowing of bulls, and a large body of
ves ran up to them in a very gay and cordial
ner. They began an eager traffic for the trif-
ornaments displayed by their visiters, yet de-
ed every invitation to go on board; while the
lish on their part did not choose to accede to
r overtures of going into the country. Frobisher
a companion meeting two of the natives apart,

rashly seized and began dragging them to the b
hoping there to gain their friendship by pres
and courtesy. On the slippery ground, howe
their feet gave way, the Esquimaux broke lo
and found behind a rock their bows and arr
which they began to discharge with great fi
Frobisher and his comrade, seized with a p
scarcely justified by two such miserable assail
fled full speed, and the captain reached the
with an arrow sticking in his leg. The crew,
gining that something truly serious must have d
back their commander in such discomfiture,
the alarm, and ran to the rescue. The two
barians instantly fled; but Nicholas Conger, a
fellow, servant to Lord Warwick, seized one of
and dragged him into the boat.

Meantime the ships outside were involved
dreadful tempest, being tossed amid those tr
dous ice-islands, the least of which would hav
sufficient to have crushed them into a th
pieces. To avoid dangers which so closely
them, they were obliged to tack fourteen ti
four hours; but with the benefit of the pe
light, the skill of their steersman, and the
Providence, they weathered the tempest
the necessity of driving out to sea and aban
their boats. On the 19th, Frobisher came o
a large store of glittering stone; upon whic
Dionise Little, "we were all rapt with joy,
ting both where we were and what we had
ed. Behold," says he, "the glory of ma
night looking for death, to-morrow devising
satisfy his greedy appetite with gold."

A north-west gale now sprung up; before

agic, the mighty barriers of ice by which the
ad been shut out melted away. They had
broad and open passage; by this they enter-
Sound, which, in the conception of the Eng-
as a strait leading into the Pacific Ocean. In
of upwards of thirty leagues they landed at
nt points, and, mounting to the tops of hills,
ossession of the country, with solemn and sa-
eremonies, in name of her majesty. Having
in one place a bridle of singular construction,
xamined their captive upon it, who thereupon
a dog, attached the bridle, yoked the animal
edge, and exhibited the Esquimaux mode of
g. This person admitted knowledge respect-
e five men captured in the preceding year,
pelled most strenuously the signs by which
nglish intimated their belief that they had
illed and eaten. However, a dark source of
ion was soon opened; for some boats of the
s were found, which, along with bones of
lesh of unknown animals, and other strange
, contained an English canvass doublet, a
a girdle, three shoes for contrary feet,—appa-
ich, beyond all doubt, belonged to their coun-
n lost in the preceding year. Anxiously hop-
recover them, they left a letter in the boat,
en, ink, and paper, with which to return an
r. Still more vigorous measures were deter-
upon to recover or avenge them. A party
y, under Charles Jackman, marched inland
e the natives in the rear, and drive them up-
coast, where Frobisher with his boats waited
rcept them. The wretches had removed their
nto the interior; but the invaders, after march-

ing over several mountains, descried another cl
of huts, supposed at first to belong to a diff
party; but the agitation and alarm visible th
stant they were observed, showed that this wa
guilty band. The Esquimaux, hastening to
canoes, pushed out full speed to sea; and they
ed with a rapidity which would have baffle
pursuit, had not Frobisher with his boats hel
entrance of the Sound, and there awaited t
As soon as they saw themselves thus beset,
landed among the rocks, abandoning their
which they hoped to render useless by breaki
oars. The English rushed on with alacrity
assault; but the natives, stationed on the
resisted the landing, and stood their ground
the most savage and desperate valour. Overw
ed with clouds of arrows, they picked the
plucking them even out of their bodies, a
turned them with fury. On feeling themselv
fully wounded, they plunged from the roc
the sea, lest they should fall into the hands
conquerors. At length, completely worste
having lost five or six of their number, they
up among the cliffs and eluded pursuit. T
into the hands of the assailants only two
who caused some speculation. One was str
years, and presented a visage so singularly
as suggested to many no less a suspicion th
the great enemy of mankind stood before
person. This impression gaining ground,
resolved to apply a test then considered in
Her buskins were plucked off, to ascertai
presented that peculiar structure of the lowe
nities supposed to characterize the dread fa

n race. As this essential character was found
ing, it was merely determined, by liberating
to deliver their eyes from so distressing a spec-
. The other female was young, with a child
r arms; and being, from her peculiar costume,
ken for a man, had been fired at and the child
led. It was in vain to apply remedies; she
l off with her tongue the dressings and salves,
ured it in her own way. She and the male
ve formerly taken looked strange at first; but,
coming intimate, found much comfort in each
's society, and showed a strong mutual attach-
t.

obisher still cherished hopes of recovering his
. A large party appearing on the top of a hill,
were made of a desire for mutual accommo-
n. A few of them advanced, and were intro-
d to the captives. The parties were deeply af-
d, and spent some time without uttering a word;
then flowed; and when they at last found
h, it was in tones of tenderness and regret,
h prepossessed the English much in their fa-
. Frobisher now came forward, and propound-
hat, on condition of restoring his five men, they
ld receive back their own captives, with the
tion of sundry of those little gifts and presents
hich they set the highest value. This they
ised, and also to convey a letter to the prison-
Doubtless by this time the captives lived no
r, and the natives had no means of amicably
ming their pledge; but they determined, by
or stratagem, to effect their purpose. Three
ppeared holding up flags of bladder, inviting
vaders to approach; but the latter, who saw

the heads of others peeping from behind the rocks, resolved to proceed with the utmost caution. The natives began by placing in view large pieces of excellent meat; and when their enemy could not be caught by that bait, a man advanced very close, feigning lameness, and seeming to offer himself an easy prey. Frobisher allowed a shot to be fired, by which the person was cured at once, and took to his heels. Seeing all their artifices fail, the barbarians determined upon main force, and pouring down to the number of a hundred, discharged their arrows with the utmost fury. They even followed a considerable way along the coast, regardless of the English shot; but the vessels meanwhile were too distant from the shore to suffer the slightest annoyance. Several of the seamen importuned Frobisher to allow them to land and attack; but this he refused, as only calculated to divert them from the main object, and to cause useless bloodshed.

The 21st of August had now arrived, the ice was beginning to form around the ships, and though little progress had been made towards China, the seamen had put on board two hundred tons of the precious ore. They therefore mounted the highest hill, fired a volley in honour of the Countess of Warwick, and made their way home.

Notwithstanding the vicissitudes which had marked this voyage, its arrival was hailed with the utmost exultation. Enthusiasm and hope, both with the queen and the nation, rose higher than ever. The delusion of the golden ore continued in full force, and caused those desolate shores to be regarded as another Peru. Special commissioners, men of judgment, art, and skill, were named by her

to ascertain both the quality of the ore and rospects of the voyage to India. After due in-, a most favourable report was made on both cts, and it was recommended not only that a expedition on a great scale should be fitted out, colony established on that remote coast, who t at once be placed in full possession of its trea-, and be on the watch for every opportunity of er discovery. To brave the winter of the Po- world was a novel and daring enterprise; yet was then the national spirit, that the appoint- number of a hundred was quickly filled up. re were forty mariners, thirty miners, and thirty ers, in which last number were oddly included only gentlemen, but gold-finers, bakers, and enters. Materials were sent on board the ves- which, on being put together, might be con- ed into a fort or house. The squadron fitted out the largest that had yet ventured to plough the hern deep. It consisted of fifteen vessels, fur- ed by various ports, especially by those of the t, and the rendezvous took place at Harwich he 27th May, 1578, whence they sailed on the . The captains waited on the queen at Green- h, and were personally addressed by her in the t gracious manner,—Frobisher receiving a chain old, and the honour of kissing her majesty's hand. ccasion was formerly taken to observe, that ex- itions got up on the greatest scale, and with the t ample means, usually proved the most unfor- ate. A large and incumbered fleet was ill calcu- d to steer through the ice-entangled straits, and d the mighty mountains which were floating the northern deep. On reaching the Queen's

Foreland, at the opening of Frobisher's Strait, the navigators found it frozen over from side to side, and barred as it were with successive walls, mountains, and bulwarks. A strong easterly wind had driven numerous icebergs upon the coast, and hence the navigation amid these huge moving bodies soon became most perilous. The Dennis, a large vessel, on board of which was part of the projected house, received such a tremendous blow from a mountain of ice, that it went down instantly, though another ship, hastening to its aid, succeeded in saving the men. This spectacle struck panic into the other crews, who felt that the same fate might next moment be their own. The danger was much augmented when the gale increased to a tempest, and the icy masses, tossing in every direction, struck furiously against the sides of the vessels. Invention was now variously at work to find means of safety. Some moored themselves to these floating islands, and being carried about along with them, escaped the outrageous blows which they must otherwise have encountered. Others held, suspended by the sides of the ship, oars, planks, pikes, poles, every thing by which the violence of the shocks might be broken; yet the ice, "aided by the surging of the sea and billow," was seen to break in pieces planks three inches thick. Frobisher considers it as redounding highly to the glory of his poor miners and landsmen, wholly unused to such a scene, that they faced with heroism the assembled dangers that besieged them round. "At length it pleased God with his eyes of mercy to look down from heaven —a brisk south-west wind dispersed the ice, and gave them an open sea through which to navigate

r a few days spent in repairing the vessels
)pping up the leaks, Frobisher bent afresh all
)rts to penetrate inward to the spot where he
) found his colony. After considerable effort
de his way into the strait, when he discover-
at he was sailing between two coasts; but
the gloomy mists, and the thick snow which
i this northern midsummer, nothing could be
ctly seen. As, however, clear intervals occa-
ly occurred, affording partial glimpses of the
the surmise arose, that this was not the shore
which they had formerly sailed. Frobisher
l not listen to a suggestion which would have
:ted him of having thrown away much of his
and labour. He still pressed onwards. Once
ariners imagined they saw Mount Warwick,
'ere soon undeceived. At length Christopher
chief pilot, stood up and declared, in hearing
the crew, that he never saw this coast before.
)her still persevered, sailing along a country
populous, more verdant, and better stocked
)irds, than the one formerly visited. In fact
'as probably the main entrance into Hudson's
by continuing in which he would have made
ost important discoveries. But all his ideas
ieral wealth and successful passage were asso-
with the old strait; and, on being obliged to
hat this was a different one, he turned back
open sea. In this retreat the fleet was so
ed in fogs and violent currents, and so beset
ocks and islands, that the sailors considered
'by a special interposition of Providence that
'ere brought out in safety. When they had
l the open sea, and arrived at the mouth of

the desired strait, it was almost as difficult to find an entrance. However, Frobisher was constantly on the watch, and wherever there appeared any opening, it is said, "he got in at one gap and out at another," till at length he reached his purposed haven in the depths of the North. Before, however, the crews were completely landed and established, the 9th of August had come, thick snows were falling, and it behoved them to hold a solemn consultation as to the prospects of the projected colony. There remained of the house only the materials of the south and east sides; the rest had either gone down in the Dennis, or had been shattered into fragments while suspended from the sides of the ships to meet the strokes of the ice. Great part of the bread had been spoiled, and the liquors had sustained a woful leakage; in short, there was no adequate provision for a hundred men during a whole year. Captain Fenton of the Judith indeed suggested, that what remained of the house might be formed into a hut for sixty men, with whom he undertook to brave the northern winter; but the carpenters being consulted, declared that such a structure could not be erected in less than two months, while their utmost possible stay would be twenty-six days. Renouncing the idea of settlement, Frobisher still asked his captains whether they might not, during the short remaining interval, attempt some discovery to throw a redeeming lustre on this luckless voyage; but, in reply, they urged the advanced season, the symptoms of winter already approaching, and the danger of being enclosed in these narrow inlets, where they would be in the most imminent danger of perishing;—in

hat nothing was now to be thought of but
y return homewards. This was effected, not
t the dispersion of the fleet, and considerable
to some of the vessels.

e voyages contain notices of the country and
which strikingly agree with those collect-
recent navigators. This Meta Incognita,
ncludes only the countries bordering upon the
es of Hudson's Bay, is considered as a clus-
arge islands lying thick together, and sepa-
y narrow inlets,—an idea, perhaps, not so
ded as was for some time supposed. These
es consist of mountains and high lands, co-
with snow even in the midst of summer;
appeared very surprising to find in latitude
d 61° a cold much more intense than at the
Cape and Wardhuys in latitude 72°. The
are described as of a ripe-olive complexion,
ong black hair, broad faces, and flat noses,
resembling Tartars, or, more strictly, Sa-
es, to whom, according to the best informa-
robisher could obtain, they were also simi-
their habits of life. The land could scarcely
ither grain or fruit, and the people made no
t to cultivate them, eating merely shrubs and
" even as our kine do;" or, as Settle ex-
it, " such grass as the country produceth
luck up and eat, not daintily or saladwise,
e brute beasts devouring the same." In
respects, he observes, they seek " by their
g, fishing, and fowling, to satisfy their greedy
es, which is their only glory." They use
r seat, table, nor cloth; but, " when they are
d with blood knuckle deep, they use their

tongues as apt instruments to lick them clean." From the manner in which, to the great disgust of the beholders, they devoured their meat in the most loathsome and putrid state, without any cookery or preparation, an inference is somewhat rashly drawn, that they would not make the least hesitation in partaking of human flesh. Frobisher could observe only their summer-houses, which are described as poor caves, like ovens, having holes like a fox or cony burrow, formed of pieces of whalebone meeting at top, and covered with seal-skin, and in the inside of which, by strewing moss, they formed nests to sleep on. At the same time they were found to be sharp-witted, and showed, by signs, great readiness both to understand and reply to the English. If they could give no information on any subject, they shut their eyes; if they did not comprehend what was said to them, they stopped their ears. They took the greatest delight in music; repeating and keeping time to any tune with voice, head, hand, and foot. Their darts, arrows, and other weapons, were skilfully contrived, and used with a courage amounting even to desperation, of which repeated instances have been given. Their little boats of skin (kayak) were moved by one oar, with a swiftness which no English sailor could match. Their astonishment at European objects appeared particularly when one of them was shown his visage in a mirror. "He was upon the sudden much amazed thereat, and, beholding advisedly the same with silence a good while, at length began to question with him as with his companion; and finding him dumb, seemed to suspect him as one disdainful, and would have grown into choler, until at last, by feeling and

ling, he found the deceit, and then, with great
and cries, ceased not wondering, thinking
we could make men live and die at our plea-
" There were great signs of mutual attach-
, especially between the male and female cap-
who were brought home on the second voyage.
killed and dressed the dogs for him, and tended
carefully when sick, while he picked out the
test and fattest morsels, and laid them before
yet they lived entirely as brother and sister,
out the slightest impropriety.

ur naval records do not inform us of the feel-
excited in the nation by the return from this
, perilous, and abortive voyage. The failure of
ssive attempts, and especially of one got up
so much cost and circumstance, probably pro-
d its usual effect of lassitude and despondence.
glittering stone, which was to have converted
northern Meta into another Peru, was never
heard of; a few careful assays having doubt-
stablished its utter insignificance. Frobisher
nmended strongly the trial of the first mistaken
which he had entered, as being, in comparison
e other, broader, more patent, and every way
promising; but the people could by no means

be roused to any farther efforts. He was obliged to seek in other climates employment for his daring and active spirit. He accompanied Sir Francis Drake to the West Indies; he commanded one of the largest ships in the armament which opposed the Spanish Armada, and fought with such bravery that he was decorated with the honours of knighthood. Being afterwards sent to assist Henry IV. against the League, and employed in the attack of a small fort on the coast of France, he received a wound from a ball, which, through unskilful treatment, proved fatal in November, 1594.

Seven years after Frobisher's last voyage, the spirit of the nation was again roused. Divers opulent merchants of London and of the west determined to "cast in their adventure;" and, leaving wholly out of view the delusive hopes of gold which had misled Frobisher, directed theirs entirely to the discovery of a passage to India. They fitted out two vessels, the Sunshine and Moonshine, of 50 and 35 tons respectively, which were placed under the command of John Davis, a steady and determined seaman, endowed also with a large portion of courtesy and good humour, by which he was likely to render himself acceptable to the rude natives of those inhospitable shores: to promote which laudable purpose, he was provided not only with a supply of the trifling gifts suited to their taste, but with a band of music to cheer and recreate their spirits. This being a western navigation, Davis, on the 7th June, 1585, set sail from Dartmouth. On the 19th July, as the seamen approached the Arctic boundary, they heard, amid a calm sea beset with thick mist, a mighty roaring, as of the waves

ing on a rocky shore. The soundings gave 300 oms; however, the captain and master pushed n the boat to examine this supposed beach; but e much surprised to find themselves involved d numerous icebergs, while all this noise had n caused by the rolling and beating of these sses against each other. Davis landed on some hese islands, and broke off pieces of ice, which, ng carried to the ship, were converted into good er. Next day he came in view of the south- tern coast of Greenland, which appeared the st dreary and desolate ever seen; "deformed, ky, and mountainous, like a sugar-loaf, standing our sight above the clouds. It towered above fog like a white list in the sky, the tops alto- her covered with snow, the shore beset with ice, king such irksome noise that it was called the *nd of Desolation*." The water on this coast was ck and thick, like a standing pool, and though y saw many seals floating, and birds beating on the water, none could be caught.

After sailing for several days along this dreary ore, without being able to approach on account of e ice, Davis pushed out north-westward into the en sea, hoping in "God's mercy to find our de- red passage." On the 29th he came in view of land in 64° north latitude, which was still only reenland; but as the wind was unfavourable for roceeding westward, the air temperate, and the oast free from ice, he resolved to go on shore and ake a view of the country and people. In the company of two others he landed on an island, leaving directions for the rest to follow as soon as they should hear any loud signal. The party mount-

ed the top of a rock, whence they were espied by the natives, who raised a lamentable noise, with loud outcries like the howling of wolves. Davis and his comrades hereupon struck up a high note, so modulated, that it might at once be alluring to the natives, and might summon his own crew to deeds either of courtesy or valour. Burton, the master, and others, hastened, well armed, yet with the band of music playing, and dancing to it with the most inviting signs of friendship. In accordance with this gay summons, ten canoes hastened from the other islands, and the people crowded round the strangers, uttering in a hollow voice unintelligible sounds. The English continued their friendly salutations, while the other party still showed jealousy, till at length one of them began pointing towards the sun and beating his breast. These signs being returned by John Ellis, master of the Moonshine, the natives were induced to approach; but, on being presented with caps, stockings, gloves, and whatever the navigators had, and continuing to be hailed with music and dancing, their fears gave place to the most cordial amity. Next day there appeared 37 canoes; the people from which kindly invited the English on shore, showing eager impatience at their delay. Davis manned his boats and went to them; one of them shook hands with him and kissed his hand, and the two parties became extremely familiar. The natives parted with every thing, the clothes from off their backs, consisting of seal-skins, and birds' skins with the feathers on them, their buskins of well-dressed leather, their darts, oars, and five canoes, accepting cheerfully in return whatever their new visiters

to present; and they kindly aided each other
the privations thus occasioned. They offer-
return next day with an ample store of furs
kins, which they saw the foreigners value so
y; but a favourable breeze springing up, Davis
properly determined to allow nothing to inter-
vith his schemes of discovery. He steered di-
across the strait, or rather sea, which still
his own name. On the 6th August he dis-
ed high land, which he named Mount Raleigh,
part of Cumberland Island. Here, anchor-
n a fine road, the seamen saw three white ani-
, which seemed to be goats. Desirous of fresh
als and sport, they pursued them, but disco-
l instead three monstrous white bears. The
als rushed on fearless and furious, till, being
ved with several balls, they retreated, appa-
y not much hurt, but were followed and at
killed. There appeared no symptoms of their
ng fed on any thing except grass; but it was
sary to clear away a very large quantity of fat
e the flesh could be eaten.

avis, after coasting about for some days, again
l himself at the cape which he had at first
ed on his crossing from the opposite shore of
nland. This promontory, which he called
s Mercy, he now turned, when he found him-
in a sound stretching north-westward, twenty
irty leagues broad, free from ice, and its wa-
having the colour and quality of the main
n. After ascending it sixty leagues, he found
land in the mid-channel, which still, however,
ded an open passage; so that his hopes daily
ased. About the end of August, however, be-

ing involved in fogs and contrary winds, he d
mined to suspend operations for this season an
turn to England.

On one of the islands in this sound the se
heard dogs howling, and saw twenty approac
wolf-like appearance, but in most peaceful
Impressed, however, with the idea that only
mals of prey could be found on these shores,
fired and killed two, round one of whose neck
found a collar, and soon afterwards discovere
sledge to which he had been yoked. Davis s
this voyage abundance of the black and glit
stone of Frobisher, and many of the rocks ap
"orient like gold;" but little attention wa
excited by these delusive appearances.

Although nothing was actually done by th
pedition, yet the ultimate views which it had
to Davis inspired sanguine hopes, and facilitat
equipment of a fresh expedition. To the s
armament of the Sunshine and Moonshine w
added the Mermaid of 120 tons, with a boat
nace. Davis sailed from Dartmouth on the 7t
and on the 15th June came in view of the so
extremity of Greenland; but, owing to severe
it was the 29th before he reached the land fo
visited in lat. 64°. As the English approach
natives came out in their canoes at first with
and cries; but, recognising their companions
former year, they hastened forward, and hung
the vessel with every expression of joy and w
Davis, seeing them in such favourable dispo
went ashore and distributed in presents
knives, refusing the offer of skins in return
most intimate acquaintance was now begu

ey never met the strangers anew without crying *Ithaout!*" beating their breasts and lifting their nds to the sun, by which a fresh treaty was ratied. The two parties amused themselves by conests in bodily exercises. The Esquimaux could not atch their opponents in leaping; but in wrestling ey showed themselves strong and skilful, and ew some of the best English wrestlers. By deees they began to manifest less laudable qualities. ey exercised many and solemn incantations, ough, Davis thanks God, without any effect. They indled a fire by rubbing two sticks against each her, and invited him to pass through it; but he, contempt of their sorcery, caused the fire to be dden out, and the embers thrown into the sea. e natives showed soon a much more inconvenient opensity to appropriate every article, especially n, which came under their notice. Perhaps it s imprudent ever to have made presents, thus ggesting the idea, which does not seem to have fore entered their minds, that any thing could be tained without an equivalent. However, they on reached the highest pitch of audacity; they le a spear, a gun, a sword, cut the cables, and even e Moonlight's boat from her stern. The leading rsonages of the crew remonstrated with Davis, at for their security he must "dissolve this new endship, and leave the company of those thievish creants." Davis fired two pieces over their heads, ich "did sore amaze them," and they fled precitately. But in ten hours they again appeared, with many promises and presents of skins; when, on seeing iron, "they could in nowise forbear stealing." The commander was again besieged with the com-

plaints of his crew; however, "it only ministered to him an occasion of laughter," and he bid his men look vigilantly to the safety of their own goods and not deal hardly with the natives, who could scarcely be expected in so short a time "to know their evils."

Davis now undertook an expedition to observe somewhat of the interior. He sailed up what appeared a broad river, but which proved only a strait or creek. A violent gust of wind having obliged him to seek the shelter of land, he attempted to ascend a very lofty peak; but "the mountains were so many and so mighty, that his purpose prevailed not." While the men were gathering muscles for supper, he was amused by viewing, for the first time in his life, a waterspout, which he describes as a mighty whirlwind, taking up the water and whirling it round for three hours without intermission. Next day he re-embarked, and penetrated higher up the channel; but was surprised to find, instead of the huge unbroken continent which he had supposed, only waste and desert isles, with mighty sounds and inlets passing between sea and sea.

During the captain's absence matters had become worse with the Esquimaux. The mariners on his return opened a fearful budget; the natives had stolen an anchor, cut the cable, and even thrown stones of half a pound weight against the Moonlight; and he was asked if he would still endure these injuries. Davis, who probably suspected that the sailors' own dealings had not been very gentle, bid them have patience, and all should be well. He invited an Esquimaux party on board, made them various little presents, taught them to run to the topmast,

and dismissed them apparently quite pleased. Yet no sooner had the sun set than they began to "practise their devilish nature," and threw stones into the Moonlight, one of which knocked down the boatswain. The captain's meek spirit was at length kindled to wrath, and he gave full warrant for two boats to chase the culprits; but they rowed so swiftly that the pursuers returned with "small content." Two days after, five natives presented themselves with overtures for a fresh truce; but the master came to Davis, remonstrating that one of them was "the chief ringleader, a master of mischief," and was vehement not to let him go. He was made captive, and a fair wind suddenly springing up, the English set sail, and carried him away, many doleful signs being then exchanged between him and one of his countrymen; however, on being well treated, and presented with a new suit of frieze, his spirits revived, he became a pleasant companion, and used occasionally to assist the sailors.

Davis, finding the wind favourable, pushed across the bay, in hopes of attaining the object of his voyage. On the 17th July the mariners descried a land diversified with hills, bays, and capes, and extending farther than the eye could reach; but what was their horror on approaching, to find that it was only "a most mighty and strange quantity of ice!" It was, in fact, that immense barrier which often, for a great part of the season, fills the middle of Baffin's Bay. As they coasted along this mighty field a fog came on, by which the ropes, shrouds, and sails, were all fast frozen,—a phenomenon which, on the 24th July, appeared more than strange. Dismayed by these observations, the seamen considered the passage hope-

less, and, in a respectful yet firm tone, warned Davis, that by "his over-boldness he might cause their widows and fatherless children to give him bitter curses." Davis was willing to consider their case; yet, anxious not to abandon so great an enterprise, he determined to leave behind him the Mermaid, as a vessel less convenient and nimble, and to push on in the Moonlight with the boldest part of his crew. Having found a favourable breeze, he at last, on the 1st August, turned the ice, and in lat. 66° 33' reached land; along which he now coasted southwards for about ten degrees, entangled among a number of islands, and missing in his progress the different inlets which afforded an entrance into Hudson's Bay. The shores were crowded with incredible flocks of gulls and seamews, and the water so abounded in fish that, though their tackle was very indifferent, in the running of an hour-glass the crew caught a hundred cod. On reaching Labrador, the coast was seen covered with ample forests of fir, pine, yew, and birch; but five men who landed were beset by the natives, and two of them killed and two wounded. Davis being also exposed to a violent tempest, and seeing September arrive, judged it wisest to return to England.

The public were considerably damped by the issue of this expedition; so that Davis found no small difficulty in obtaining the means for equipping another. He was obliged to hold out the inducement that, by proper arrangements, the outlay might be defrayed by fishing, and no additional expense incurred on account of discovery. By these arguments, and by the exertions of his zealous friend, Mr Sanderson, he succeeded in fitting out the Sunshine, the Elizabeth,

pinnace. This last, to which he mainly trusted
scovery, answered very ill the character which
een given of it, and was found to move through
ater like a cart drawn by oxen. On the 16th
1587, the adventurers arrived at their old
and were received by the natives as before with
y of *iliaout* and the exhibition of skins. These
es, however, lost no time in the renewal of their
r system of thieving; for which great oppor-
es were afforded during the putting together of
t with materials brought from England. They
d off the planks, and when fired at placed them
e their bodies as shields, thus securing both
planks and persons. It was now arranged
the two large vessels should remain to fish,
Davis in the pinnace stretched out into a
r latitude with a view to discovery. In pur-
e of this plan he took his departure, and, con-
ng to range the coast to the northward, on the
he reached a point, which he named Sander-
Hope, in upwards of 72 degrees, still finding
e open sea to the west and north. Here, the
having shifted, Davis resolved to hold on a
rn tack across this sea, and proceeded for forty
es without sight of land or any other obstruc-
when he was arrested by the usual barrier of
mense bank of ice. He first endeavoured to
l it by the north, but, seeing no passage on that
turned to the south, beating about for several
without success. Tempted by an apparent
ng, he involved himself in a bay of ice, from
h he was not extricated without much difficulty
ome danger. He was obliged to wait the mo-
when the sea beating and the sun shining on

this mighty mass should effect its dissolution. At length, on the 19th July, he came in view of Mount Raleigh, and at midnight found himself at the mouth of the inlet discovered in the first voyage, and which has since been called Cumberland Strait. Next day he sailed across its entrance, and in the two following days ascended its northern shore, till he was again involved among numerous islands. He seems now to have concluded this strait to be an enclosed gulf, and shaped his course to reach the sea; but, being becalmed in the bottom of the bay, he could not till the 29th, by coasting along the southern shore, effect his retreat. Frobisher's Strait was now passed, seemingly without being recognised as such, but was called Lumley's Inlet. He next crossed the mouth of an extensive gulf, in one part of which his vessel was carried along by a violent current, while in another the water was whirling and roaring as is usual at the meeting of tides. This recess, being terminated by Cape Chidley, was evidently the grand entrance afterwards penetrated by Hudson. Davis, however, who had only half a hogshead of water left, hastened to the point of rendezvous fixed with the two other vessels; but, to his deep disappointment and just indignation, he found that they had departed. It was not without hesitation that, with the slender store remaining in his little bark, he ventured to sail for England; but having scarcely any alternative, he undertook the voyage, and happily accomplished it.

Davis wrote still to Mr Sanderson in sanguine and almost exulting terms. He had reached a much higher latitude than any former navigator, and, with the exception of the barrier of ice on one side,

und the sea open, blue, of vast extent and
nomable depth. He considered, therefore, that
ccess of a spirited attempt was almost infal-
But the interest taken by the nation in such
rises seems only capable of being sustained for
ain period. Three failures had exhausted that
st, and made men indisposed to listen or in-
further into the subject. It became the cry,
informs us,—"This Davis hath been three
employed; why hath he not found the pass-
The death of Secretary Walsingham occur-
at this period was a severe blow to the cause,
the invasion by the Spanish Armada soon fol-
d, and engrossed for a space all the thoughts
energies of the nation. Mr Sanderson still con-
ed the steady friend of Davis; but, unable to
n resources for a new armament, he could only
oy Molyneux, the best artist of his time, to
ruct a globe which comprised all that naviga-
discoveries, and is still preserved in the library
e Middle Temple.
1602 the spirit of the nation revived. To the
covy Company, which had taken the lead in
e early schemes of discovery, was now added
evant Company; and these two great bodies,
g the course to India by the Cape still beset
many dangers, determined upon a joint effort
netrate thither by the north-west. They sent
Captain George Weymouth with two vessels,
Discovery and God-speed, which they called fly-
, though they were respectively of 70 and 60
He left London on the 2d May, and on the
June came in view of the coast of Greenland,
h appeared to him "a main bank of ice." The

water was in many places as thick as puddle, making him imagine himself among shallows, till the sounding-line gave 120 fathoms without any ground. This, formerly observed by Davis, was probably the green cloudy sea of Scoresby, thickened by the infusion of numberless animalcules.

Weymouth having made sail westward with a favourable breeze, came, on the 28th, in sight of the coast of America. There appeared a promontory covered with snow, which he concluded to be Warwick's Foreland; but the vessels were tossed to and fro by violent currents, or over-falls as he calls them, and involved in fogs so thick that they were once quite close to a bank of ice before it was perceived. However, being in want of water, the party landed, loaded their boat with ice, and found it to make very palatable drink. The crews heard a great sound like the dashing of waves on the shore; on making up to which they were dismayed to find it "the noise of a great quantity of ice, which was very loathsome to be heard." The mist became so thick that they could not see two ships' length, and determined to take down the sails; but were petrified to find them so fast frozen to the rigging that, in "this chiefest time of summer, they could not be moved." Next day they renewed the attempt; but it was only by cutting away the ice from the ropes that they could be made to move through the blocks. The following day the fog lay so thick, and froze so fast, that ropes, sails, and rigging, remained immovable.

These phenomena produced a disastrous effect on the minds of the sailors, who began to hold secret conferences, ending in a conspiracy "to bear up the helm for England." It was proposed to seize Wey-

h, and confine him in his cabin till he gave his
nt; but the captain, receiving notice of this ne-
tsdesign, summoned the seamen before him, and
esence of Mr Cartwright the preacher, and Mr
th the master, called upon them to answer for
ttempting to overthrow a voyage fitted out at
mple cost by the honourable merchants. The
tood firm, producing a paper signed by their
ands, in which they justified the proposed step
nded on solid reason, without any tincture of
r cowardice. They represented that, if they
l suffer themselves to be enclosed in an un-
n sea, by this dreadful and premature winter,
would not only be in imminent danger of per-
, but could not hope to commence their career
covery next year sooner than May; while by
g sail in due time from England they might
reach this coast in that month. Weymouth
d to his cabin to deliberate, when he heard it
nced that the helm was actually borne up.
ening on deck, and asking who had done this,
as answered, "One and all!" and he found
mbination such as it was impossible to resist,
gh he took occasion afterwards to chastise the
eaders. The men, however, declared themselves
to hazard their lives in any discovery which
t be attempted to the southward.
cordingly, on descending to 61° N. lat., Wey-
h found himself at the entrance of an inlet, into
h he sailed, in a south-west direction, a hundred
es by reckoning; but, encountering fogs and
y gales, and finding the season far spent, he
ed it necessary to regain the open sea. This
however, was thought to present more favour-

able hopes of a passage than any other that had yet been discovered. It appears in fact to have been the grand entrance of Hudson's Bay; so that Fox justly ascribes some merit to Weymouth in directing that great navigator into this spacious expanse. As his course, however, of west by south, must have led him off the main channel of this large strait, and thrown him on the western shore of what is now called Ungava Bay, his estimated reckoning of a hundred leagues is evidently overrated. In 55° he found a fair land, consisting of islands and "goodly sounds," apparently the place where the Moravian settlement of Nain was afterwards formed. Soon after a dreadful hurricane from the west seemed to take up the sea into the air, and drove the ships before it with the utmost impetuosity. Had it been from any other quarter they must have been dashed to pieces on rocks; however, they ranged through the open sea, and in the greatest extremity "the Lord delivered us his unworthy servants." He had now an easy navigation to England.

No farther proceedings occurred till 1606, when the Muscovy and East India merchants fitted out a vessel of 40 tons under John Knight, who had been employed in the Danish voyages to Greenland, and was considered a stout and enterprising sailor. He sailed from Gravesend on the 18th April, but was detained a fortnight in the Pentland Frith; however, "two lustie fellows, well acquainted with these north parts of Scotland," took him into a good harbour called St Margaret's Hope, where he remained till the 12th May. He directed his course almost due west, towards America, and had reached the latitude of 58°, when winds and currents bore him to

er met the strangers anew without crying
!" beating their breasts and lifting their
the sun, by which a fresh treaty was rati-
ıe two parties amused themselves by con-
odily exercises. The Esquimaux could not
eir opponents in leaping; but in wrestling
wed themselves strong and skilful, and
me of the best English wrestlers. By de-
y began to manifest less laudable qualities.
ercised many and solemn incantations,
Davis thanks God, without any effect. They
a fire by rubbing two sticks against each
ıd invited him to pass through it; but he,
ıpt of their sorcery, caused the fire to be
out, and the embers thrown into the sea.
ves showed soon a much more inconvenient
y to appropriate every article, especially
ich came under their notice. Perhaps it
rudent ever to have made presents, thus
ıg the idea, which does not seem to have
tered their minds, that any thing could be
without an equivalent. However, they
ched the highest pitch of audacity; they
ear, a gun, a sword, cut the cables, and even
ılight's boat from her stern. The leading
es of the crew remonstrated with Davis,
their security he must "dissolve this new
p, and leave the company of those thievish
ts." Davis fired two pieces over their heads,
did sore amaze them," and they fled preci-
But in ten hours they again appeared, with
omises and presents of skins; when, on see-
"they could in nowise forbear stealing."
mander was again besieged with the com-

with fifty savages, who, with loud cries and menacing gestures, showed themselves prepared for immediate attack. The English mustered only eight men and a large dog, and though the rain fell in torrents, they determined rather to perish bravely, assailing this savage enemy, than to wait their onset. They advanced, therefore, placing the dog foremost. This bold front appalled the savages, who leaped into their boats, and made off with all speed; but they were entangled in the ice, and detained a considerable time, during which the pursuers continued firing, and the savages were heard "crying to each other very sore." They are represented, as far as could be judged, as very small people, tawny-coloured, with thin or no beards, flat-nosed, and man-eaters; but this last particular was doubtless hypothetical.

The mariners, placed in this alarming situation, made all the haste they could to fit their shattered bark for again taking the sea. They had first to cut a way for her through the ice; but they had nothing which could be called a rudder, and the leaks were so large that the sailors could scarcely enjoy half an hour's relief from the pump. At length they found means to stop up tolerably the principal fissure, and, after hard rowing and pumping for three weeks, succeeded in reaching the coast of Newfoundland. Among the fishing-vessels on that station they found most kind and loving friends, who supplied all their wants; and after twenty days spent in repairing their ship, and refreshing their bodies, the crew enjoyed a good passage to Dartmouth, whence they transmitted to London an account of the doleful issue of their voyage.

It was Hudson that now stood foremost in the

r of northern discovery, and earned a fame
h has placed him among the greatest of British
gators. We have traced his career in former
ers,—first in the daring attempt to cross the
itself; then in his second voyage for the north-
passage; and also in his third excursion, which
in the discovery of the river now associated
his name. But the most eventful of his voy-
and that marked by the grandest result, was
e which closed his labours, undertaken with a
o a western passage. The narrative of the com-
er himself is only a meagre journal, brought
to a particular point of the voyage; but a full
n is given by a certain personage, naming him-
bacuk Pricket, against whose testimony, how-
or reasons that will appear in due time, there
me heavy objections. This expedition was
out by Sir John Wolstenholme, Sir Dudley
s, and other persons of distinction, who did
owever, project it on a very magnificent scale.
sisted only of one vessel of 55 tons, provi-
l for six months, which left the Thames on
7th April, 1610. Hudson touched at the north
tland, the Orkney and the Faroe Islands, all
h he judged to lie not in so high a latitude as
aps represented. On the 11th May he descried
astern part of Iceland, and was enveloped in a
south fog,—hearing the sea dashing against
oast without seeing it. He was thus obliged to
to anchor; but, as soon as the weather clear-
he proceeded westward along the coast till he
hed Snow Hill (Snaefell), which rears its aw-
ead above the sea that leads to the frozen shores
Greenland. On their way the navigators saw

Hecla, the volcano of which was then in activity, vomiting torrents of fire down its snowy sides, with smoke ascending to the sky,—an object not only fearful in itself, but which struck them with alarm, as an indication of unfavourable weather.

Leaving the Icelandic coast they now sailed westward, and, after being deceived by illusory appearances of land, at length saw the white cliffs of Greenland towering behind a mighty wall of ice. Without attempting to approach the coast, Hudson sailed towards the south-west, and passed what he imagined to be Frobisher's Straits, which in fact long continued to be laid down on the coast of Greenland, though with manifest error, since they evidently belong to that of America. Hudson now turned Cape Farewell, and "raised the Desolations," making careful observation of those coasts, which he found not well laid down in the charts. The mariners soon began to descry, floating along, the mighty islands of ice,—a sight which appalled all but the stoutest hearts. Onward they sailed, however, sometimes

ing a clear and open sea, but often encompass-
y these mighty masses or by the small and
ng heaps; and at length they had to steer as
re between two lands of ice. They sometimes
ed themselves, on occasions of peril, to these ice-
; but seeing one of them dispart, and fall with
nendous crash into the sea, they no longer trust-
such a protection. On the 25th June land ap-
d to the north, was again lost sight of, and af-
rds discovered to the south; so that they found
selves at the broad entrance of the channel
has since obtained the name of Hudson's
. They were now still more pestered with ice
rious forms, particularly that of large islands
ing deep in the water, which were more diffi-
o avoid from the violent ripples and currents.
they were often obliged, especially amid thick
to fasten themselves to the largest and firmest
ese masses; upon these they used to go out
time to time, collecting the water melted in
ollows, which proved to be sweet and good.
l these vicissitudes many of the sailors fell sick;
though Pricket does not choose to assert that
sole malady was fear, yet in many he saw
signs of any other. The crews of that pe-
indeed, display few symptoms of the patience
hardihood with which those of Willoughby and
isher had first braved the northern tempests.
son, seeing his men in this depressed temper,
ought himself of an expedient by which he
d to animate them. He called them together,
ed them his card (chart), from which it appear-
at they had penetrated farther into the Straits
hundred leagues than any former expedition,

and put it to themselves whether they would proceed,—yea or nay? This was a bold experiment, but did not succeed. Some, it is true, expressed themselves "honestly respecting the good of the action;" but others declared they would give nine-tenths of all they were worth, so that they were safe at home; others said they did not care where they went, so they were out of the ice. Hudson, vexed and disappointed, broke up the conference, and followed his own determination. This, we think, is evidently the real state of the case, though Pricket represents the captain himself as in a state of alarm and doubt. He accuses him also of having remembered too long some of the speeches made on this occasion, to the disadvantage of those by whom they had been uttered.

Notwithstanding this failure, Hudson, buoyed up by his own courage and hardihood, seeing land alternately on one side and the other, having sometimes a wide and clear sea, and being sometimes involved amid mountains of ice, made his way onward. Certain rocky islands in which, when severely pressed by the wind and floe, he found a tolerable harbour, were called "Isles of God's Mercy;" but even this harbour was rendered dangerous by hidden reefs; and the island adjoining to it contained, according to Pricket, only "plashes of water and riven rocks," and had the appearance of being subject to earthquake. At length they arrived at a broad opening, having on each side capes, to which Hudson gave the names of the two chief patrons of the voyage; to the one on the continent, that of Wolstenholme; to the other on the large Island of Mansfield, that of Sir Dudley Digges. Landing at the island cape, and mounting a hill, the men descried some

level spots abounding in sorrel and scurvy-grass, plants most salutary in this climate; while herds of deer were feeding, and the rocks were covered with an unexampled profusion of fowls. Seeing such ample materials, both for sport and food, the crew, who had ever shown the most anxious concern for their own comfort, earnestly besought Hudson to allow them to remain and enjoy themselves for a few days on this agreeable spot. But that great navigator, seeing the season for his chief enterprise rapidly passing away, repelled such an overture. He had not long proceeded through this channel when the coasts on each side were seen to separate, and he beheld before him an ocean-expanse, to which the eye could discover no termination. It seemed to him, doubtless, a portion of the mighty Pacific. Here, however, Hudson's narrative closes, without expressing those feelings of pride and exultation which must have filled his mind at this promised fulfilment of his highest hopes. The relation of Pricket, on which we must now depend, shows too clearly that many of his crew would have had no sympathy with such elevated feelings.

The expanse thus discovered by Hudson was the great inland sea, called from him Hudson's Bay; and it was a grand discovery, though not exactly what he imagined. The 3d of August was now arrived, a season at which the boldest of northern navigators had been accustomed to think of returning. Little inclined to such a course, he continued to sail along the coast on the left, which must have appeared to him the western boundary of America,—hoping probably before the close of autumn to reach some cultivated and temperate shore, where he might take

up his winter-quarters. The shores along this bay, however, though not in a very high latitude, are subject to a climate the most rigorous and inclement. Entangled in the gulfs and capes of an unknown coast, struggling with mist and storm, and ill-seconded by a discontented crew, he spent three months without reaching any comfortable haven. It was now the 1st November, the ice was closing in on all sides, and nothing remained but to meet the cheerless winter which had actually begun. The sailors were too late of attempting to erect a wooden house; yet the cold, though severe, does not seem to have reached any perilous height. Their chief alarm respected provisions, of which they had brought only a six months' supply, and consequently had now only a small remnant left. Hudson took active measures to relieve this want. He carefully husbanded their original stock, and propounded a reward to whoever should kill beast, fish, or bird; and "Providence dealt mercifully," in sending such a supply of white partridges, that in three months they killed a hundred dozen. In spring these birds disappeared, but were succeeded by flocks of geese, swans, ducks, and teals not denizens of the spot, but on their flight from south to north. When these were passed, the air no longer yielded a supply, but the sea began to open, and having on the first day taken five hundred fishes of tolerable size, they conceived good hopes; but this success did not continue. Being reduced to great extremity, they searched the woods for moss, which they compare, however, to pounded timber: they ate even frogs. The commander undertook an excursion with a view to open an intercourse with the natives but they fled, setting fire even to the woods behind

ı. Parley was obtained with one, whom they
ed with gifts; yet he never returned. Discontents
: as to the distribution of the small remaining
ion of bread and cheese; to allay which the cap-
made a general and equal partition of the whole.
i was a bad measure among such a crew, many
hom knew not how "to govern their share,"
greedily devoured it as long as it lasted. One
even ate the whole in a day, and brought on a
erous surfeit. Their distress, becoming thus
er than ever, soon arrived at a most fatal crisis.
udson, as may be observed, had from the first
uggle with an unprincipled, ill-tempered crew,
of any concern for the ultimate success of the
ge. He had probably hoped, as the season
d advance, to push on southwards, and reach
summer the wealthy regions for which he was
issioned to search. The sailors, on the con-
, had fixed their desires on "the cape where
do breed," the only place where they expect-
obtain both present supply and the means of
ing to England. Ringleaders were not want-
head this growing party of malecontents. At
trance of the bay the captain had displaced
he mate, who had shown strong propensities
ls returning, and appointed in his room By-
nan of merit, and who had always shown zeal
general cause. He had also changed the
ain. But the most deadly blow was struck
:en, a wretch whom, after he had been cast
all his friends, Hudson from humanity had
on board, and endeavoured to reclaim and re-
) society. He was possessed of talents which
ade him useful, and even a favourite with his

superior; and among other discontents it was reckoned one, that a veil was thrown over several flagrant disorders of which he had been guilty. Yet some hot expressions of Hudson, caused, it is said, by a misunderstanding about the purchase of a gray coat, so acted on the fierce spirit of this ruffian that, renouncing every tie of gratitude, and all that is sacred among mankind, he became the chief in a conspiracy to seize the vessel and expose the commander to perish.

After some days' consultation, the time was fixed for the perpetration of this horrible atrocity. On the 21st June, 1611, Green, and Wilson the boatswain, came into Pricket the narrator's cabin, and announced their cruel resolution,—adding, that they bore him so much good-will as to wish that he should remain on board. Pricket avers most solemnly, that he exhausted every argument that might induce them to desist from their horrid purpose, beseeching them not to do so foul a thing in the sight of God and man, and which would for ever banish them from their native country, their wives, and their children. Green wildly answered, that they had made up their minds to go through with it or die, and that they would rather be hanged at home than starve here. An attempt was then made to negotiate a delay of three, two, or even one day, but all without effect. Ivet came next, of whom, as being a person of mature age, there seemed more hope; but he was worse than Green, declaring that he would justify in England the deed on which they had resolved. John Thomas and Michael Perse now came in, proving themselves "birds of a feather," and Moter and Bennet having followed, an

oath was administered to the following tenor:—"You shall swear truth to God, your prince, and country; you shall do nothing but to the glory of God and the good of the action in hand, and harm to no man." Pricket complains of the reproach thrown upon him for having taken this oath, the true terms of which are certainly unexceptionable; but the dark context by which they were illustrated marks them as containing an implied obligation to remain at least passive on this dreadful occasion. All was now ready, but Pricket persuaded them to delay till daylight the accomplishment of their crime. They agreed, but kept strict watch through the night, and held themselves ready to act at the first appearance of dawn.

Daybreak approaching, Hudson came out of his cabin, when he was instantly set upon by Thomas, Bennet, and Wilson, who seized him and bound his hands behind his back; and on his eagerly asking what they meant, told him he should know when he was in the shallop. Ivet then attacked King the carpenter, known as the commander's most devoted adherent. That brave fellow, having a sword, made a formidable resistance, and would have killed his assailant, had not the latter been speedily reenforced. The mutineers then offered to him the choice of continuing in the ship; but he absolutely refused to be detained otherwise than by force, and immediately followed his master, whom the conspirators were already letting down the sides of the vessel into the shallop. Then, with a barbarity beyond all example, they called from their beds and drove into it, not the firm adherents of Hudson, but the sick and infirm sailors who could afford no aid,

and whose support would have been burdensome. They threw after them the carpenter's box, with some powder and shot. Scarcely was this transaction completed, when they cut off the boat from the stern, "out with their topsail," and set off, flying as from an enemy. Hudson, thus abandoned, was never heard of more; and this great navigator undoubtedly perished on those remote and desolate shores, though the form or duration of the distress to which he fell a victim must be for ever unknown.

The sailors, as soon as the guilty deed was accomplished, fell upon the ship as on a captured vessel, breaking open every chest, and seizing on every remnant of food which could be discovered. Green, however, who now assumed the command, used some vigour in restoring order. He placed the cabin and provisions under the charge of Pricket, who was afterwards accused of a matter no less than treason,—that of secreting some cakes of bread. As soon as the mutineers had time to reflect, rueful musings began to arise. Even Green admitted that England at this time was no place for them, nor could he contrive any better scheme than to keep the high sea till, by some means or other, they might procure a pardon under his majesty's hand and seal. The vessel was now embayed, and detained for a fortnight amid fields of ice, which extended for miles around it; and, but for some cockle-grass found on an island, the crew must have perished by famine. Considerable disputes with respect to the steerage arose between Ivet and Bylot, who alone had any pretensions to skill; but the latter, being justly viewed with the greatest confidence, at length guided them to Cape Digges, the longed-for

got, the breeding-place of fowls, clouds of which accordingly continued still to darken the air. The party immediately landed, spread themselves among the rocks and began to shoot. While the boat was on shore, they saw seven canoes rowing towards them, whereupon "they prepared themselves for all assayes." However the savages came forward, beating their breasts, dancing and leaping, with every familiar and friendly sign. The utmost intimacy commenced, the parties went back and forward, showed each other their mode of catching fowls, and made mutual presents and exchanges. In short, these appeared the most kind and simple people in the world, and "God so blinded Henry Green" that he viewed them with implicit confidence. One day, amid the height of this intimacy, Thicket, sitting in the boat, suddenly saw a man's leg close to him. Raising up his head, he perceived a savage with a knife uplifted and ready to strike. In attempting to arrest the blow, his hand was cut, and he could not escape three wounds, one in the breast, and one in the right thigh; by which time he got hold of the handle of the knife and wrenched it from the assassin, whom he then pierced with his dagger in the left side. At the same time a general attack was made on the English crew, dispersed in different quarters. Green and Perse came tumbling down wounded into the boat, which pushed off; while Moter, "seeing this medley," leaped into the sea, swam out, and, getting hold of the stern, was pulled in by Perse. Green now cried *coragio*, and he and Perse brandished their weapons with such vigour that the savages ceased attempting to enter the boat; but they poured in clouds of arrows,

one of which struck Green with such force tha
died on the spot, and his body was thrown int
sea. At length the party reached the vessel
Moter and Wilson died that day, and Pers
days after. Thus perished the chief perpetrat
the late dreadful tragedy, visited by Provi
with a fate not less terrible than that which
had inflicted on their illustrious and unfort
victim.

The crew, thus deprived of their best hands
in extreme perplexity, obliged to ply the ship
fro across the Straits, and unable, without t
most fear and peril, to venture on shore; wh
was absolutely necessary for obtaining provis
carry them to England. They contrived,
some anxious and unhappy excursions, to
three hundred birds, which they salted an
served as the only stock whereupon to atten
voyage. They suffered, during the passage, th
dreadful extremities of famine, allowing on
a fowl a-day to each man, and considering it
ury to have them fried with candles, of w
weekly distribution was made for that p
Ivet, now the sole survivor of the ringleaders
late dreadful transaction, sunk under these
tions. The last fowl was in the steep-tub, a
men were become careless or desperate, whe
denly it pleased God to give them sight o
which proved to be the north of Ireland.
complain that, on going ashore at Berehaven
did not meet the sympathy and kindness
they so much needed; however, by mort
their vessel, they obtained the means of proc
to Plymouth.

Purchas closes the narrative by saying,—"Well, Mr Pricket, I am in much doubt of thy fidelity;" and he is not singular in this suspicion. It seems clear that this person did not avail himself of all the means by which he might have attempted to check the atrocious mutiny. Probably, however, had he been an active agent in the crime, some of his accomplices would have betrayed him, or, had their mutual guilt bound them to each other, some story would have been invented to palliate or conceal the offence; whereas it is set forth by this narrative in all its atrocity.

Notwithstanding the calamitous and deplorable issue of this voyage, the discovery thereby made of a great open sea in the west seemed to justify the most flattering hopes of accomplishing a passage. To follow out this prospect, Captain, afterwards Sir Thomas Button, was despatched next year (1612), having Bylot and Pricket as guides. Button seems to have been an active and resolute seaman. He soon made his way through the Straits, and, pushing directly across the great sea that opened to the westward, he came in view of an insular cape, which he called Carey's Swan's Nest; and this afterwards proved to be the most southern point of Southampton Island. Nothing else broke the apparent continuity of the ocean, and he cherished sanguine hopes that the first coast he should see would be that of Japan. Suddenly the alarm of land was given, when there appeared before him an immense range of Arctic coast, stretching north and south, and barring all farther progress. Button, deeply disappointed, gave to it the name of Hope Checked. Before he had time to look for an open-

ing, the gloom of the northern winter began to gather, and it behoved him to seek quarters for the season. These he found in the same creek and river, which afterwards became the principal settlement of the Hudson's Bay Company. In spite of his best precautions, he lost several men through the severity of the cold, and was unable to extricate himself from the ice till the middle of June. He then steered northward, and sought an opening through the broad bay between the continent and Southampton Island, since called Roe's Welcome. Seeing this channel, however, become narrower and narrower, till it apparently closed, he gave up the attempt, and, after touching at several points of the island just named, returned to England.

Although Button had been thus baffled by the unwelcome encounter of the western shore of Hudson's Bay, the merchants still justly considered it by no means ascertained that this coast was so extensive and continuous as to preclude all passage into the ocean beyond America; they lost not a season, therefore, in fitting out (1614) two vessels under Captain Gibbons, an officer of reputation, pronounced by Button "not short of any man that ever yet he carried to sea." But either his reputation went beyond his merits, or fortune was singularly adverse, for never was there a more abortive voyage. He was early entangled in a bay on the coast of Labrador, where he was detained the whole summer, and which was afterwards dignified with the appellation of "Gibbons his Hole." Having here sustained some damage from the ice, he no sooner extricated himself than he returned home.

The merchant-adventurers, still undismayed, sent

xt summer (1615) the Discovery under By-
lo in all the late voyages had approved him-
skilful navigator, and was accompanied by
, whose name was now established as the most
l steersman and best nautical observer of the
After passing Cape Farewell, they saw some
remendous islands of ice, one of which rose
et above water, and, according to the usual
le, which makes this visible part only a se-
of the whole, had probably an entire height
0 feet. Having entered the Straits, and, on
June, hearing from the northern shore a tre-
us barking of dogs, they landed and found
nts covered with seal-skin, amongst which
running about thirty-five or forty of these
ls, of a brinded black colour, resembling
. They had collars and harness suitable for
sledges, lined with fish-bone, which were
ig by. In one of the houses was a bag with
nages of men, the only notice we find of any
abrication upon this coast. The navigators
escried a canoe with twenty individuals,
they hailed with Greenland words of cour-
nport, holding up knives and other toys.
y salutations were given in return; but
party chose to trust themselves within reach
ther. At a little distance, the conflict of
currents amid large icebergs caused so
a grinding that they gave to the adjoin-
l the name of Mill Island. There they
have been in extreme danger "had not
no is stronger than ice or stream," deliver-

olicy of Bylot in this voyage seems to have

been to keep close to the northern shore of the strait; and thus, entering Hudson's Bay at a higher latitude, he hoped to keep clear of those lands which had barred the westerly career of his predecessors. Therefore, on reaching Hudson's Isles of God's Mercy, instead of steering southward to Cape Dudley Digges, he proceeded directly west, and arrived in the broad expanse, afterwards called the Fox Channel. At length, indeed, he saw land, but it was bounded by a cape which had every appearance of being the most northerly point of America. He called it Cape Comfort; though this name, it soon appeared, was premature, for a single day had not elapsed when "his sudden comfort was as soon quailed." They were now on the eastern coast of Southampton Island, which spread on every side its almost measureless extent, seeming to preclude every prospect of an opening on either hand. Disappointment, the lateness of the season, and the pressure of the ice, concurred in persuading Bylot that there was nothing to be hoped for here, and determined him to set sail immediately for England; whither he carried a most unfavourable report as to any prospect of penetrating westward in that direction.

But the adventurers were not discouraged by this unfavourable result. Turning their hopes to a different quarter, next year (1616) they again fitted out Bylot and Baffin, with instructions no longer to attempt the passage by Hudson's Bay, but to enter the *Fretum Davis* (Davis' Strait), and push due north till they reached lat. 80°, if an open sea should allow them to proceed so far; then, turning to the westward, to round, if practicable, the extreme point

merica, and to bear down upon Japan. Re-
ing this voyage, which, perhaps, of all those to
forth, produced the most memorable discoveries,
n has favoured us with only a very meagre nar-
n. Following the course pointed out, he reach-
n the 30th May, Hope Sanderson, the farthest
of Davis' progress. Soon afterwards the ex-
ion came to a number of small islands, on which
found only females, some of very great age.
e at first ran and hid themselves among the
; but the sailors having reached two dames,
of whom was estimated at fourscore, and hav-
presented to them bits of iron and the usual
the latter carried a favourable report to their
hful countrywomen. The whole party soon
down to the shore, and four even went on
the boat. The charms of these ladies were
tened or disfigured by long black streaks made
eir youth with a sharp instrument, and lodged
p that they could not now be effaced. It was
ed, too, that the dead were buried merely by
stones over them, above which the body ap-
, secured, however, from putrefaction by the
ne cold of the climate. The navigators sailed
ds in lat. 74°, when they were arrested by a
ody of ice, and obliged to turn into a neigh-
g sound to wait its melting. Here they re-
repeated visits from about forty-two natives,
y account of whom is, that they brought an
dinary quantity of the bones of sea-unicorns
vals, great numbers of which were seen swim-
n the water. Hence this was called Horn
. The mass of ice now dissolved before the
ul influence of the sun, and the discoverers

sailed northwards among its fragments; but still snow fell every day, and the shrouds and sails were often so hard frozen as to make it impossible to handle them. In 76° they came to a fair cape, and then to a fair sound, to which they gave the respective names of Digges and Wolstenholme, the two main promoters of this undertaking, and whose zeal was already associated with localities in the interior of Hudson's Straits. After having sustained a somewhat severe storm, the expedition discovered another sound, which would have supplied them with a multitude of whales, had they been duly provided with the means of capture: this they called Whale Sound. Next, in 78°, appeared another inlet, the widest and greatest in all this sea, and which was named after Sir Thomas Smith, one of the main promoters of discovery. This opening, which Baffin seems to have examined very superficially, abounded almost equally in whales, and caused particular astonishment by the extraordinary aberration of the needle, to which nothing similar had been ever witnessed. Between these two sounds was an island which was named Hakluyt, after the venerable recorder of early English discoveries. Proceeding now along the south-western boundary of this great sea, the next "fair sound" received the name of Alderman Jones, another patron of these laudable pursuits. It may be remarked that Baffin notices all these inlets, of which he was the first discoverer, in the most cursory manner, without mention of any attempt to trace, in their interior depths, an opening into any sea beyond. In lat. 74° there appeared another broad opening, which was called Sir James

Lancaster's Sound; but while he calls it great, he seems scarcely to have noticed this future entrance into the Polar Sea; on the contrary, he observes, at the very same moment, that the hope of a passage became every day less and less. He sailed on; but a barrier of ice prevented him from approaching the shore till he came within the "indraft" of Cumberland's Isles, "where hope of passage could be none." Finding the health of his crew rather declining, he sailed across to Greenland, where an abundance of scurvy-grass boiled in beer quickly restored them; and "the Lord then sent a speedy and good passage homeward."

On returning, he expressed the most decided conviction that the great sea which he had traversed was a bay enclosed on all sides, and affording no opening into any ocean to the westward; and his judgment was received by the public, who named it from him Baffin's Bay. He forcibly, however, represented the great opportunities which it afforded for the whale-fishery, as those huge animals were seen sleeping in vast numbers on the surface of the water, without fear of the ship "or of any thing else." Davis' Strait, accordingly, has ever since been a favourite resort of the fishers, who have not, however, often ventured into those high latitudes, where whales are described by Baffin as more peculiarly abundant.

There was now a pause in English discovery; every quarter had been tried, and none seemed to afford any farther promise. Denmark, however, which has always felt a natural interest in northern navigation, made an attempt to follow up the success of Hudson and Baffin. In 1619, Christian IV.

sent out two well-appointed vessels under Jens Munk, who had the reputation of a good seaman. He succeeded in penetrating through Hudson's Straits into the bay, whereupon he took upon himself to change the whole nomenclature of that region, imposing the names of Christian's Straits and Christian's Sea, and calling the western coast New Denmark. But this innovation, which was contrary to every principle recognised in such cases, has not been confirmed by posterity. When September arrived, and the ice closed in, he thought it prudent to seek winter-quarters, and accordingly established himself in the mouth of an opening which, it is highly probable, was that channel which has been since called Chesterfield Inlet. The season seemed to open with the best promise, commodious huts were constructed, and there were both abundance and variety of game. The Danes saw some of those brilliant aerial phenomena that are peculiar to those latitudes; at one time two and at another three suns in the sky, and the moon once environed by a transparent circle, within which was a cross cutting through its centre; but, instead of amusing their minds with these beautiful appearances, they were depressed by viewing them as a mysterious presage of future evils. Frost now set in with all its intensity; their beer, wine, and other liquors, were converted into ice; the scurvy began its ravages, and, ignorant of the mode of treating it, they employed no remedy except a large quantity of spirits, which has always been found to aggravate that frightful disorder. Unfit for the exertion necessary to secure the game with which the country abounded, they soon had famine added to their other distresses.

ir miseries seem to have been almost without a allel, even in the dark annals of northern navi- on. Munk himself was left four days in his hut hout food; at length, having crawled out, he d that of the original crew of fifty-two no more n two survived. He and they were overjoyed to t, and determined to make an effort to preserve Gathering strength from despair they dug into snow, under which they found herbs and grass, ich, being of an antiscorbutic quality, soon pro- ed a degree of amendment. Being then able to and shoot, they gradually regained their natural ur. They equipped anew the smaller of the two els, in which they reached home on the 25th tember, 1620, after a stormy and perilous voy- . Munk declared his readiness to sail again; there are various reports as to the cause why he not. Some say, that having in a conference h the king been stung by some expressions which ned to impute the disasters of the voyage to his management, he died of a broken heart. But ster relates that, during several successive years, was employed by the king on the North Sea and the Elbe, and that he died in 1628, when en- ed in a naval expedition.

The English, after Baffin's expedition appeared to e shut out all prospect of discovery in the more thern seas, confined for a long time all their ef- s in the direction of Hudson's Bay. As these not lead to any important results, and are chiefly nected with the remoter settlements of Ameri- we shall introduce here only a very slight sketch hem.

Captains Fox and James were fitted out in 1631.

The former examined two passages leading to the northward, one on the western side of Southampton Island, called Sir Thomas Roe's Welcome; the other on the eastern side, called from himself Fox's Channel; but he did not trace either to any great height. James, entangled in the southern extremity of Hudson's Bay, spent a winter under the most extreme suffering from cold, and returned next summer to England.

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CHAPTER VII.

Recent Voyages in Search of a North-West Passage.

Spirited Views of the British Government—Ross' Expedition; He sails round Baffin's Bay; Arctic Highlands; Lancaster Sound; His Return—Parry's First Expedition; Entrance into the Arctic Sea; Regent's Inlet; North Georgian Islands; Winters at Melville Island; Mode of spending the Winter; North Georgian Theatre; Gazette; Disappearance of the Animal Tribes; Attempt to proceed Westward during the Summer; His Return to England—Parry's Second Expedition, accompanied by Captain Lyon; He enters Hudson's Strait; Savage Islands; Duke of York's Bay; Frozen Strait; Various Inlets discovered; Ships frozen in for the Winter; Polar Theatre and School; Brilliant Appearances of the Aurora Borealis; Intercourse with a Party of Esquimaux; Land Excursions; Release from the Ice; Voyage Northward; Discovery of a Strait named after the Fury and Hecla; Progress arrested; Second Winter Quarters, at Igloolik; The Esquimaux; Symptoms of Scurvy; Return of the Expedition to England—Parry's Third Expedition; He winters at Port Bowen; Shipwreck of the Fury; Return of the Hecla—Plan of Captain Ross' Second Voyage, and his Departure.

BRITAIN had seen other nations carry off all the great prizes in naval discovery. She had scarcely a vessel on the ocean, when the nations of the Iberian peninsula laid open new worlds, and appropriated the golden treasures of the East and of the West. Her energies being once roused, her efforts were from the beginning bold and adventurous, though sometimes made with inadequate means, on a small

out next summer (1615) the Discovery under Bylot, who in all the late voyages had approved himself a skilful navigator, and was accompanied by Baffin, whose name was now established as the most skilful steersman and best nautical observer of the age. After passing Cape Farewell, they saw some most tremendous islands of ice, one of which rose 240 feet above water, and, according to the usual estimate, which makes this visible part only a seventh of the whole, had probably an entire height of 1680 feet. Having entered the Straits, and, on the 3d June, hearing from the northern shore a tremendous barking of dogs, they landed and found five tents covered with seal-skin, amongst which were running about thirty-five or forty of these animals, of a brinded black colour, resembling wolves. They had collars and harness suitable for certain sledges, lined with fish-bone, which were standing by. In one of the houses was a bag with little images of men, the only notice we find of any such fabrication upon this coast. The navigators soon descried a canoe with twenty individuals, whom they hailed with Greenland words of courteous import, holding up knives and other toys. Friendly salutations were given in return; but neither party chose to trust themselves within reach of the other. At a little distance, the conflict of opposite currents amid large icebergs caused so fearful a grinding that they gave to the adjoining land the name of Mill Island. There they would have been in extreme danger "had not God, who is stronger than ice or stream," delivered them.

The *policy of Bylot in this* voyage seems to have

been to keep close to the northern shore of the strait; and thus, entering Hudson's Bay at a higher latitude, he hoped to keep clear of those lands which had barred the westerly career of his predecessors. Therefore, on reaching Hudson's Isles of God's Mercy, instead of steering southward to Cape Dudley Digges, he proceeded directly west, and arrived in the broad expanse, afterwards called the Fox Channel. At length, indeed, he saw land, but it was bounded by a cape which had every appearance of being the most northerly point of America. He called it Cape Comfort; though this name, it soon appeared, was premature, for a single day had not elapsed when "his sudden comfort was as soon quailed." They were now on the eastern coast of Southampton Island, which spread on every side its almost measureless extent, seeming to preclude every prospect of an opening on either hand. Disappointment, the lateness of the season, and the pressure of the ice, concurred in persuading Bylot that there was nothing to be hoped for here, and determined him to set sail immediately for England; whither he carried a most unfavourable report as to any prospect of penetrating westward in that direction.

But the adventurers were not discouraged by this unfavourable result. Turning their hopes to a different quarter, next year (1616) they again fitted out Bylot and Baffin, with instructions no longer to attempt the passage by Hudson's Bay, but to enter the *Fretum Davis* (Davis' Strait), and push due north till they reached lat. 80°, if an open sea should allow them to proceed so far; then, turning to the westward, to round, if practicable, the extreme point

er of rising merit, who has since amply justified the choice made by his employers.

On the 18th April the vessels dropped down the Thames, and by the end of the month were off the Shetland Islands. By the 27th May they came in view of Cape Farewell; round which, as usual, were floating numerous and lofty icebergs of the most varied forms and tints. On the 14th June they reached the Whale Islands, where they were informed by the governor of the Danish settlement that the past winter had been uncommonly severe, the neighbouring bays and straits having been all frozen two months earlier than usual, and that some of the channels northward of his station were still bound in with the ice. A curious statement was here made, that the Esquimaux, by their own account, could see across the whole breadth of the bay, though not less than two hundred miles, which would be an extraordinary instance of the power of refraction; but the ice, it may be observed, often presents deceptive appearances of land. On the 17th June, in the neighbourhood of Waygat Island, an impenetrable barrier obliged the discoverers to stop their course, making themselves fast to an iceberg, and having forty-five whale-ships in company. Observations made on land proved this island to be misplaced on the maps by no less than five degrees of longitude. At length the ice attached to the eastern shore broke up, though still forming a continuous and impenetrable rampart at some distance to the westward, in which direction it had drifted; but in the intermediate space they were enabled to move forward slowly along the coast, labouring through narrow and intricate channels,

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Mr Dobbs, the mover of the expedition, was deeply disappointed by this result; and from his own reflections, and the statement of several of the inferior officers, became convinced that Middleton had given a very false and imperfect statement of the facts. Of this he so fully convinced both the Parliament and the nation, that £10,000 was subscribed for a new expedition, and a reward of £20,000 promised to the discoverers of the projected passage. Captains Moor and Smith, in 1746, commanded this armament, which, like many of those equipped with peculiar pomp and circumstance, entirely failed. They merely ascertained, what was pretty well known before, that the Wager afforded no passage; and, after spending a severe winter there, returned next season to England.

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ed, indeed, a general impression that so many expeditions undertaken in vain had set that great question at rest; but when Mr Barrow applied to it the powers of his vigorous and penetrating judgment, he became sensible that this conclusion was quite groundless. Baffin had once sailed round that great sea, which by him, and from him, was called a bay; but his examination had been quite superficial, and insufficient to establish that continuity of land with which the maps had so thoroughly enclosed it. There were even striking facts indicating that there was a communication with the Greenland Sea on the one side and the Polar Basin and the Pacific Ocean on the other. Even in regard to Hudson's Bay, no progress had been made since Parliament had offered a reward of £20,000, and sent out the large expedition under the captains Moor and Smith. Thus the grand question in which the country had long taken so deep an interest was still open; and to decide it nothing more seemed necessary than that skill and undaunted courage, of which British seamen had shown themselves so eminently possessed.

In 1818, the Admiralty fitted out two expeditions; one destined for the discovery of the north-west passage, the other to attempt a voyage across the Pole. The first, which is the one we are at present to follow, consisted of the Isabella of 385 tons, commanded by Captain John Ross, an officer of reputation and experience, who had twice wintered in the Baltic, had been employed in surveying the White Sea, and been as far north as Bear or Cherie Island. Another vessel, the Alexander of 252 tons, was commanded by Lieutenant Parry, a young offi-

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ber of whales which were slumbering securel
these deep recesses, never having been alarme
the harpoon. On the 7th August, in the sam
titude, a heavy gale sprung up, and, driving th
against the vessels, made a display of its ter
and dangerous power. A trial of strength en
between the ice and the ships,—being dashed ag
each other with such force that the anchors
cables were successively broken, and a boat, w
could not be withdrawn from between their st
was crushed to pieces. Providentially, wher
stant destruction was expected, the icy mas
ceded, and the ships, owing to the extraordi
strength of their construction, escaped without
terial injury.

Proceeding along a high mountainous coast
expedition came to a tribe of Esquimaux, wh
all human beings, seem to exist in a state o
deepest seclusion. They had never before seen
belonging to the civilized world, or of a race d
ent from their own. The first small party w
the navigators approached showed every sign o
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opening, and seeing it, at whatever distance,
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bay, and deemed farther investigation superfl
Too much importance seems also to have bee
tached to barriers of ice, which in many cases
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Whale Sounds very quickly, without approa
even their entrance; concluding them to be l
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As these openings stretched towards the nor
must be admitted that they could not in this
latitude be considered very favourable as to a
ern route. He came next to Sir Thomas S
Sound, which we may recollect Baffin to hav
scribed as the most spacious and promising i
whole circuit of these coasts. This was v
with greater attention; but Captain Ross consi
himself as having distinctly seen it, at the dis
of eighteen leagues, completely enclosed by
The space appears too great for so positive a
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seems to have been adopted on very slight gro
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been unknown and unobserved,—afterwards to
which Baffin had called Alderman Jones' So

ociate with our idea of the Greenlander, is here wholly unknown. Much of their food is found within the deep, and procured by walking over the icy surface which incrusts it during the greater part of the year. Yet they have one important advantage, not only over other Esquimaux, but over the most civilized of the native Americans. The country affords iron, which, being flattened by sharp stones, and inserted in a handle made of the horn of the sea-unicorn, forms knives much more efficient than those framed of bone by the neighbouring hordes. Again, unlike the other tribes, they have a king, who rules seemingly with gentle sway; for they described him as strong, very good, and very much beloved. The discoverers did not visit the court of this Arctic potentate; but they understood that he drew a tribute, consisting of train-oil, seal-skins, and the bone of the unicorn. Like other Greenlanders, they had sledges drawn by large and powerful teams of dogs; their chase was chiefly confined to hares, foxes of various colours, the seal, and the narwal. They rejected with horror the perverted luxuries of biscuit, sweetmeats, or spirits; train-oil, as it streamed from the seal and the unicorn, alone gratified their palate. Captain Ross, swayed by national impressions, gave to this district the name of the *Arctic Highlands*.

In the northern part of this coast the navigators observed a remarkable phenomenon,—a range of cliffs, the snowy covering of which had exchanged its native white for a tint of deep crimson. This red snow was not only examined on the spot, but a portion of it was brought to England, and analysed by *the most learned men* both at home and

had seen the land stretching very nearly across the entire bay. Hereupon, it is said, all hopes were renounced, even by the most sanguine, and Captain Ross sailed onward merely for the purpose of making some magnetical observations.

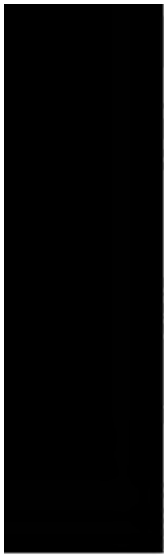
At three o'clock the sky having cleared, the commander himself went on deck, when he states that he distinctly saw across the bottom of the bay a chain of mountains continuous and connected with those which formed its opposite shores. The weather then becoming unsettled, he made the signal to steer the vessels out of Lancaster Sound. Lieutenant Parry, however, declares, that to him, in the Isabella, this signal appeared altogether mysterious, being himself full of the most sanguine expectations, and seeing no ground whatever for this abrupt retreat; but his duty obliged him to follow.

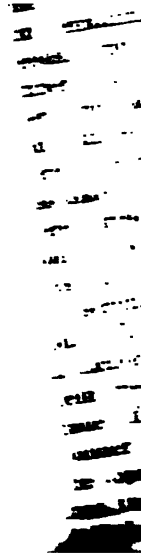
On regaining the entrance of this great channel, Captain Ross continued to steer southward along the western shore of Baffin's Bay and Davis' Strait, without seeing any entrance which afforded equal promise. Cumberland Strait alone was similar in magnitude; but it could lead only into the higher latitudes of Hudson's Bay, and afforded thus little chance of a free passage into the Arctic Sea. After surveying, therefore, some of these shores, he returned home early in October.

The captain arrived in England under the most decided conviction that Baffin's observations had been perfectly correct, and that Lancaster Sound was a bay, affording no entrance into any western sea. If even any strait existed between the mountains, it must, he conceived, be for ever innavigable on account of the ice with which it is filled. The

but in respect to both, the ice at their entrance, and the apparent boundary of high land in the interior, led, as in the other instances, to a prompt and unfavourable conclusion.

The season was now somewhat advanced, the end of August approached, the sun set after a perpetual day of two months and a half, and a thick fog rendered the lengthening nights more gloomy. The land, seen at some distance, consisted of very high and steep mountains, presenting, however, some spots fit for human habitation. An opening forty-five miles wide, to the southward of a promontory which was named Cape Charlotte, was decided against in the usual summary manner. On the 30th August, the expedition came to a most magnificent inlet, bordered by lofty mountains of peculiar grandeur, while the water, being clear and free from ice, presented so tempting an appearance, that it was impossible to refrain from entering. This channel, which soon proved to be the Lancaster Sound of Baffin, was ascended for thirty miles; during which run officers and men crowded the topmast, filled with enthusiastic hope, and judging that it afforded much fairer hopes of success than any of those so hastily passed. Captain Ross, however, and those whom he consulted, never showed those sanguine expectations. He soon thought that he discovered a high ridge stretching directly across the inlet; and though a great part of it was deeply involved in mist, yet a passage in this direction was judged to be hopeless. The sea being open, however, the commander proceeded; but about twelve o'clock Mr Beverley, the assistant-surgeon, came *down from the crow's nest*, and stated, that he





them from the English, they made earnest signs that only Saccheous, the interpreter,* who bore a certain resemblance to themselves, should come ashore. He went forward and offered his hand; but they shrunk back for some time in alarm. At length the boldest touched it, and finding it flesh and blood, set up a loud shout, in which three others joined. The rest of the party then came up, to the number of eight, with 50 dogs, which joined their masters in raising a tremendous clamour. Ross and Parry now thought it time to come forward. This movement excited alarm and a tendency to retreat; but Saccheous having taught these officers to pull their noses, this sign of amity was graciously accepted. A mirror was now held up to them, and on seeing their faces in it they showed the most extreme astonishment, looking round on each other a few moments in silence, then setting up a general shout, succeeded by a loud laugh of delight and surprise. The ship was the next object of their speculation; the nature of which they endeavoured to ascertain by interrogating itself; for they

* This young man was a native of Greenland, who had accompanied the Thomas and Ann, Captain Newton, one of the Leith whalers, on her homeward voyage in 1816; and the following year he went out to the fishery, returning a second time to Europe. During this period, being intelligent and docile, he made considerable proficiency in a course of elementary study, in the prosecution of which he received every assistance from his friends in Leith. On the equipment of the Arctic expedition, his wishes to accompany the discovery-ships having been communicated to government through the medium of Captain Basil Hall, he was immediately engaged as interpreter. His services in that capacity, as the narrative shows, were of eminent utility; and, on his return, the Admiralty, desirous to have him properly instructed, in the event of future expedition, sent him to Edinburgh for that purpose. Here, however, in the ensuing spring, he was unfortunately attacked with inflammatory fever, which carried him off in a few days.

scale, and often with a disastrous issue. Advancing, however, with regular steps, she first rivalled, and finally surpassed all other modern nations. The reigns of George III. and of his eldest son formed the era which decided both her maritime supremacy and her special eminence in the department of discovery. She achieved almost entirely the exploration of the vast expanse of the South Sea, with its great and numerous islands, leaving to the rival expeditions of France only a scanty gleaning. The revolutionary war for some time attracted exclusively the attention and resources of the nation; but as soon as a series of signal triumphs had left Britain without an enemy to contend with in the seas of Europe, she looked again to this theatre of her former glory. Even amid the din of arms, the African association pursued their enlightened and philanthropic course; and the important and brilliant issues to which it had led, finally induced the government to take an interest in this undertaking, and apply to it resources which no private body could command. Mr Barrow, who by his personal observation had illustrated some of the most important quarters both of this and of other continents, took the chief direction,—prompting and guiding every step with an energetic perseverance and practical judgment which had never been extended in an equal degree to similar objects. The measures undertaken with respect to Africa, with their varied and eventful results, do not come within the compass of the present work. But when the spirit was once roused, it did not confine itself to a single point. The northern seas, as a theatre of adventure, had been *unoccupied for half a century*. There prevail-

ed, indeed, a general impression that so many expeditions undertaken in vain had set that great question at rest; but when Mr Barrow applied to it the powers of his vigorous and penetrating judgment, he became sensible that this conclusion was quite groundless. Baffin had once sailed round that great sea, which by him, and from him, was called a bay; but his examination had been quite superficial, and insufficient to establish that continuity of land with which the maps had so thoroughly enclosed it. There were even striking facts indicating that there was a communication with the Greenland Sea on the one side and the Polar Basin and the Pacific Ocean on the other. Even in regard to Hudson's Bay, no progress had been made since Parliament had offered a reward of £20,000, and sent out the large expedition under the captains Moor and Smith. Thus the grand question in which the country had long taken so deep an interest was still open; and to decide it nothing more seemed necessary than that skill and undaunted courage, of which British seamen had shown themselves so eminently possessed.

In 1818, the Admiralty fitted out two expeditions; one destined for the discovery of the north-west passage, the other to attempt a voyage across the Pole. The first, which is the one we are at present to follow, consisted of the Isabella of 385 tons, commanded by Captain John Ross, an officer of reputation and experience, who had twice wintered in the Baltic, had been employed in surveying the White Sea, and been as far north as Bear or Cherie Island. Another vessel, the Alexander of 252 tons, was commanded by Lieutenant Parry, a young offi-

but in respect to both, the ice at their entrance, and the apparent boundary of high land in the interior, led, as in the other instances, to a prompt and unfavourable conclusion.

The season was now somewhat advanced, the end of August approached, the sun set after a perpetual day of two months and a half, and a thick fog rendered the lengthening nights more gloomy. The land, seen at some distance, consisted of very high and steep mountains, presenting, however, some spots fit for human habitation. An opening forty-five miles wide, to the southward of a promontory which was named Cape Charlotte, was decided against in the usual summary manner. On the 30th August, the expedition came to a most magnificent inlet, bordered by lofty mountains of peculiar grandeur, while the water, being clear and free from ice, presented so tempting an appearance, that it was impossible to refrain from entering. This channel, which soon proved to be the Lancaster Sound of Baffin, was ascended for thirty miles; during which run officers and men crowded the topmast, filled with enthusiastic hope, and judging that it afforded much fairer hopes of success than those of those so hastily passed. Captain Ross, however, and those whom he consulted, never showed the sanguine expectations. He soon thought that he discovered a high ridge stretching directly across the inlet; and though a great part of it was deeply involved in mist, yet a passage in this direction was judged to be hopeless. The sea being open, however, the commander proceeded; but about five o'clock Mr Beverley, the assistant-surgeon, came down *from the crow's nest*, and stated, that he

amid mountains and loose fragments of ice. They steered their course, however, to the higher parts of the Bay, and in about lat. 75° came to a coast which had not been visited by former navigators. They were struck, as Baffin had been, by the great number of whales which were slumbering securely in these deep recesses, never having been alarmed by the harpoon. On the 7th August, in the same latitude, a heavy gale sprung up, and, driving the ice against the vessels, made a display of its terrible and dangerous power. A trial of strength ensued between the ice and the ships,—being dashed against each other with such force that the anchors and cables were successively broken, and a boat, which could not be withdrawn from between their sterns, was crushed to pieces. Providentially, when instant destruction was expected, the icy mass receded, and the ships, owing to the extraordinary strength of their construction, escaped without material injury.

Proceeding along a high mountainous coast, the expedition came to a tribe of Esquimaux, who, of all human beings, seem to exist in a state of the deepest seclusion. They had never before seen men belonging to the civilized world, or of a race different from their own. The first small party whom the navigators approached showed every sign of the deepest alarm,—dreading, as was afterwards understood, a fatal influence from the mere touch of these beings of an unknown species. Yet they seem to have felt a secret attraction towards the strangers, and advanced, holding fast the long knives lodged in their boots, and looking significantly at each other. Having come to a chasm which separated

from the English, they made earnest signs
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. He went forward and offered his hand; but
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r, in the ensuing spring, he was unfortunately attacked with
mentary fever, which carried him off in a few days.

conceived it to be a huge bird spreading its
wings, and endowed with reason. One of th
pulling his nose with the utmost solemnity, b
thus to address it:—"Who are you? Wh
come you? Is it from the sun or the moon?"
ship remaining silent, they at length applied to
cheous, who assured them that it was a fram
timber, the work of human art. To them, h
ever, who had never seen any wood but slight t
and stunted heath, its immense planks and m
were objects of amazement. What animal,
also asked, could furnish those enormous *skins* w
were spread for the sails. Their admiration
soon followed by a desire to possess some of the
jects which met their eyes, but with little cerem
or discrimination as to the means of effecting t
end. They attempted first a spare topmast, t
an anchor; and these proving too ponderous, on
them tried the smith's anvil; but, finding it fi
made off at last with the large hammer. Ano
wonder for them was, to see the sailors mountin
the topmast; nor was it without much hesita
that they ventured their own feet in the shro
A little terrier-dog appeared to them a contempt
object, wholly unfit for drawing burdens or b
yoked in a sledge, while the grunt of a hog f
them with alarm.

This tribe, in features, form, and even langu
belong evidently to the Esquimaux,—a race wi
diffused over all the shores of the Arctic Oc
They appear to have little or no communica
with the rest, and amid the general resembla
have some distinguishing characters. The b
large or small, which we almost instinctively

e with our idea of the Greenlander, is here
y unknown. Much of their food is found with-
deep, and procured by walking over the icy
e which incrusts it during the greater part of
ar. Yet they have one important advantage,
nly over other Esquimaux, but over the most
ed of the native Americans. The country
s iron, which, being flattened by sharp stones,
inserted in a handle made of the horn of the
nicorn, forms knives much more efficient than
framed of bone by the neighbouring hordes.
, unlike the other tribes, they have a king,
rules seemingly with gentle sway; for they
bed him as strong, very good, and very much
d. The discoverers did not visit the court of
rctic potentate; but they understood that he
a tribute, consisting of train-oil, seal-skins,
e bone of the unicorn. Like other Greenland-
ey had sledges drawn by large and powerful
of dogs; their chase was chiefly confined to
foxes of various colours, the seal, and the
l. They rejected with horror the perverted
es of biscuit, sweetmeats, or spirits; train-oil,
treamed from the seal and the unicorn, alone
d their palate. Captain Ross, swayed by
al impressions, gave to this district the name
Arctic Highlands.

he northern part of this coast the navigators
d a remarkable phenomenon,—a range of
he snowy covering of which had exchanged
ive white for a tint of deep crimson. This
ow was not only examined on the spot, but
on of it was brought to England, and ana-
by *the most learned men* both at home and

abroad, who have entertained various opinions a
the origin of the colour. The latest observati
as elsewhere observed, have established its v
table origin.

Having now passed Cape Dudley Digges, C
tain Ross found himself among those spacious sou
which Baffin had named, but so imperfectly
scribed. He seems, however, to have followed
same hasty method. On looking up an inlet
opening, and seeing it, at whatever distance,
parently closed by land, he pronounced it at on
bay, and deemed farther investigation superflu
Too much importance seems also to have been
tached to barriers of ice, which in many cases w
only temporary. He sailed past Wolstenholme
Whale Sounds very quickly, without approach
even their entrance; concluding them to be blo
ed up with ice, and to afford no hope of a pass
As these openings stretched towards the north,
must be admitted that they could not in this h
latitude be considered very favourable as to a we
ern route. He came next to Sir Thomas Smit
Sound, which we may recollect Baffin to have
scribed as the most spacious and promising in
whole circuit of these coasts. This was view
with greater attention; but Captain Ross consider
himself as having distinctly seen it, at the distan
of eighteen leagues, completely enclosed by lan
The space appears too great for so positive an i
ference, and the belief that ice barred its entran
seems to have been adopted on very slight groun
He came next to a spacious bay, which had hithe
been unknown and unobserved,—afterwards to th
which Baffin had called Alderman Jones' Soun

in respect to both, the ice at their entrance, and apparent boundary of high land in the interior, as in the other instances, to a prompt and un-urable conclusion.

he season was now somewhat advanced, the of August approached, the sun set after a per-al day of two months and a half, and a thick rendered the lengthening nights more gloomy. land, seen at some distance, consisted of very and steep mountains, presenting, however, spots fit for human habitation. An opening -five miles wide, to the southward of a pro-tory which was named Cape Charlotte, was led against in the usual summary manner. the 30th August, the expedition came to a magnificent inlet, bordered by lofty moun-s of peculiar grandeur, while the water, being and free from ice, presented so tempting an arance, that it was impossible to refrain from ring. This channel, which soon proved to be the caster Sound of Baffin, was ascended for thirty es; during which run officers and men crowded topmast, filled with enthusiastic hope, and judg-that it afforded much fairer hopes of success than of those so hastily passed. Captain Ross, how-, and those whom he consulted, never showed e sanguine expectations. He soon thought that liscovered a high ridge stretching directly across inlet; and though a great part of it was deeply lved in mist, yet a passage in this direction judged to be hopeless. The sea being open, ever, the commander proceeded; but about lve o'clock Mr Beverley, the assistant-surgeon, e down from the crow's nest, and stated, that he

had seen the land stretching very nearly across the entire bay. Hereupon, it is said, all hopes were renounced, even by the most sanguine, and Captain Ross sailed onward merely for the purpose of making some magnetical observations.

At three o'clock the sky having cleared, the commander himself went on deck, when he states that he distinctly saw across the bottom of the bay a chain of mountains continuous and connected with those which formed its opposite shores. The weather then becoming unsettled, he made the signal to steer the vessels out of Lancaster Sound. Lieutenant Parry, however, declares, that to him, in the Isabella, this signal appeared altogether mysterious, being himself full of the most sanguine expectations, and seeing no ground whatever for this abrupt retreat; but his duty obliged him to follow.

On regaining the entrance of this great channel, Captain Ross continued to steer southward along the western shore of Baffin's Bay and Davis' Strait, without seeing any entrance which afforded equal promise. Cumberland Strait alone was similar in magnitude; but it could lead only into the higher latitudes of Hudson's Bay, and afforded thus little chance of a free passage into the Arctic Sea. After surveying, therefore, some of these shores, he returned home early in October.

The captain arrived in England under the most decided conviction that Baffin's observations had been perfectly correct, and that Lancaster Sound was a bay, affording no entrance into any western sea. If even any strait existed between the mountains, it must, he conceived, be for ever innavigable on account of the ice with which it is filled. The

gent individuals, however, who had fitted out
xpedition with such zeal and on so great a
felt deep dissatisfaction both at this conclusion
the premises from which it had been drawn.
grounds, in particular, on which Lancaster
l, an opening so noble and so spacious, and in
tion so favourable in respect to western dis-
, had been so abruptly quitted, appeared
inadmissible. The same opinion was very
dly espoused by several of the officers, and
dly by Lieutenant Parry, who was second in
and, but had never been consulted on the oc-
, and who declared the relinquishment of all
t at discovery at that crisis to be in his eyes
tely unaccountable. It was determined, in
that a fresh expedition should be equipped
trusted to Mr Parry, that he might fulfil, if
e, his own sanguine hopes and those of his
yers. He was furnished with the Hecla of
ns, and a crew of fifty-eight men; and with
iper gun-brig of 180 tons, and thirty-six men,
anded by Lieutenant Liddon. These ships
made as strong and as well-fitted as possible
e navigation of the Arctic Seas; and were
with ample provisions for two years, a copi-
pply of antiscorbutics, and every thing which
enable the crews to endure the most extreme
s of a Polar winter.

utenant Parry, destined to outstrip all his pre-
ors in the career of Arctic discovery, weighed
r from the Nore on the 11th May, 1819, and
20th rounded the most northerly point of the
eys. He endeavoured to cross the Atlantic
the parallel of 58°, and though impeded du-

ring the first fortnight of June by a series of un
vourable weather, obtained on the 15th, from
distance apparently of not less than forty league
view of the lofty cliffs composing Cape Farew
On the 18th the ships first fell in with icebergs,
air being also filled with petrels, kittiwakes, te
and other winged inhabitants of the northern
Parry now made an effort to push north and w
through the icy masses, in the direction of Lan
ter Sound; but these suddenly closed upon h
and on the 25th the two ships were so immov
beset that no power could turn their heads a si
point of the compass. The vessels remained
fixed, but safe, when, on the morning of the se
day, a heavy roll of the sea loosened the ice,
drove its masses against them with such viol
that only their very strong construction saved t
from severe injury. The discoverers therefore
fain to extricate themselves as soon as possible;
resigning the idea of reaching Lancaster Sound
the most direct route, began to coast northward a
the border of this great icy field till they sh
find open water. In this progress they verified
observation of Davis, that in the narrowest pa
the great sea, misnamed his Strait, the shore
each side could be discovered at the same mom
Thus they proceeded till they reached the Wor
Islands and Hope Sanderson, in about latitude
As every step was now likely to carry them fa
from their destination, Parry determined up
desperate push to the westward. Favoured w
moderate breeze the ships were run into th
tached pieces and floes of ice, through which
were heaved with hawsers; but the obstacle

always heavier till they were completely be-
and a heavy fog coming on made them little
to take advantage of any favourable change.
the course of a week, though repeatedly and
times dangerously beset, they warped their
from lane to lane of open water, till only one
floated floe separated them from a wide open
to the westward. By laboriously sawing through
obstruction, they were able to penetrate finally
that icy barrier, and saw the western shore,
of ice, extending before them.

The navigators now bore directly down upon
Inlet Sound, and on the 30th July found them-
at its entrance. They felt an extraordinary
as they recognised this magnificent channel,
the lofty cliffs by which it was guarded, aware
a very short time would decide the fate of their
undertaking. They were tantalized, how-
by a fresh breeze coming directly down the
, which suffered them to make only very slow
. There was no appearance, however, of
tion either from ice or land, and even the
swell which came down the inlet, driving
ter repeatedly in at the stern-windows, was
as an indication of open sea to the westward.
ecla left the Griper behind, but still without
any great way herself till the 3d August,
an easterly breeze sprung up, carrying both
rapidly forward. A crowd of sail was set,
ey pushed triumphantly to the westward.
minds were filled with anxious hope and sus-

The mast-heads were crowded with officers
n, and the successive reports brought down
e *topmast-pinnacle, called* the crow's nest,

were eagerly listened to. Their course was stil
obstructed. They passed various headlands,
several wide openings towards the north and t
which they hastily named Croker Bay, Navy
Inlet, &c.; but these it was not their present
to explore. The wind, freshening more and
carried them happily forward, till at midnigh
found themselves in longitude 83° 12′, ne
hundred and fifty miles from the mouth
grand inlet, which still retained a breadth
miles. The success of the expedition, they
hoped, was now to a great extent decided.

The Hecla at this time slackened her cour
low her companion to come up, which she
longitude 85°. They proceeded together t
tude 86° 30′, and found two other inlets
they named Burnet and Stratton; then a b
named Fellfoot, forming, apparently, the t
tion of this long line of coast. The len
swell which still rolled in from the north a
with the oceanic colour of the waters, insp
flattering hope that they had already passe
gion of straits and inlets, and were now
along the wide expanse of the Polar Basi
thing, in short, it was hoped, would hence
struct their progress to Icy Cape, the weste
dary of America. An alarm of land was gi
it proved to arise only from an island of
extent. However, more land was soon di
beyond Cape Fellfoot, which was ascertain
the entrance to a noble bay, extending
right, which they named Maxwell Bay.
interrupted range of sea still stretched ou
them, though they were somewhat discom

ng on the south a line of continuous ice; but it an open route before them, and they hoped to it merely a detached stream. A little space ards, however, they discovered, with deep dis-, this ice to be joined to a compact and impe-able body of floes, which completely crossed the nel, and joined the western point of Maxwell . It behoved them, therefore, immediately to v back, to avoid being embayed in ice, along dges of which a violent surf was then beating. officers began to amuse themselves with fruit-attempts to catch white whales, when the wea-cleared, and they saw to the south an open sea a dark water-sky. Parry, hoping that this ht lead to a free passage in a lower latitude, red in this direction, and found himself at the th of a great inlet, ten leagues broad, with no ble termination; and to the two capes at its en-ce he gave the names of Clarence and Seppings. he mariners, finding the western shore of this t deeply incumbered with ice, moved across to eastern, where they found a broad and open nel. The coast was the most dreary and deso-they had ever beheld even in the Arctic world, enting scarcely a semblance either of animal or etable life. Navigation was rendered more ar-us from the entire irregularity of the compass, v evidently approaching to the magnetic pole, l showing an excess of variation which they nly attempted to measure, so that the binnacles re laid aside as useless lumber. They sailed a ndred and twenty miles up this inlet, and its gmenting width inspired them with correspond-*hopes; when, with extreme* consternation, they

suddenly perceived the ice to diverge from its parallel course, running close in with a point of land which appeared to form the southern extremity of the eastern shore. To this foreland they gave the name of Cape Kater. The western horizon also appeared covered with heavy and extensive floes, a bright and dazzling iceblink extending from shore to shore. The name of the Prince Regent was given to this spacious inlet, which Parry strongly suspected must have a communication with Hudson's Bay. He now determined to return to the old station, and watch the opportunity when the relenting ice would allow the ships to proceed westward. That station was reached, not without some difficulty, amid ice and fog. At Prince Leopold's Islands, on the 15th, the ice was as impenetrable as ever; with a bright blink, and from the top of a high hill there was no water to be seen; luckily also there was no land. On the 18th, on getting once more close to the northern shore, the navigators began to make a little way, and some showers of rain and snow, accompanied with heavy wind, produced such an effect, that on the 21st the whole ice had disappeared, and they could scarcely believe it to be the same sea which had just before been covered with floes upon floes as far as the eye could reach.

Mr Parry now crowded all sail to the westward, and, though detained for want of wind, he passed Radstock Bay, Capes Hurd and Hotham, and Beechey Island; after which he reached a fine and broad inlet leading to the north, which he called Wellington, the greatest name of the age. The sea up this inlet being perfectly open, he would not

ave hesitated to ascend it, had there not been be-
re him, along the south coast of an island named
ornwallis, an open channel leading in a direction
hich, being due west, he could have no hesitation
preferring. Wellington Inlet was now consider-
l by the navigators, so high were their hopes, as
ming the western boundary of the land stretch-
g from Baffin's Bay to the Polar Sea, into which
ey had little doubt they were entering. For this
ason Lieutenant Parry did not hesitate to give to
e great channel, which had effected so desirable a
nction, the merited appellation of Barrow's Strait,
ter the much-esteemed promoter of the expedi-
on. A favourable breeze now sprung up, and the
dventurers passed gaily and triumphantly along
e extensive shore of Cornwallis Island, then coast-
d a larger island named Bathurst, and next a
naller one called Byam Martin. At this last place
hey judged, by some experiments, that they had
assed the magnetic meridian, situated, probably
a about 100 degrees west longitude, and where the
ompass would have pointed due south instead of
ue north. The navigation now became extremely
ifficult, in consequence of thick fogs, which not
nly froze on the shrouds, but, as the compass was
lso useless, took away all means of knowing the
irection in which they sailed. They were obliged
o trust to the land and ice, preserving the same line,
nd sometimes employed the most odd expedients
or ascertaining the precise point. They encounter-
d also a compact floe of ice, through which they
were obliged to bore their way by main force.
Through all these obstacles they reached the coast
of an *island larger than any* before discovered, to

which they gave the name of Melville. The wind now failed, and they slowly moved forward by towing and warping, till on the 4th September Mr Parry could announce to his joyful crew, that, having reached the longitude of 110° W., they were become entitled to the reward of £5000, promised by Parliament to the first crew who should attain that meridian. The mariners pushed forward with redoubled ardour, but soon found their course arrested by an impenetrable icy barrier. They waited nearly a fortnight in hopes of overcoming it; till about the 20th their situation became alarming. The young ice began rapidly to form on the surface of the waters, retarded only by winds and swells; so that Mr Parry was convinced, in the event of a single hour's calm, that he would be frozen up in the midst of the sea. No option was therefore left but to return, and to choose between two apparently good harbours, which had been recently passed on Melville Island. Not without difficulty he reached this place by the 24th, and made choice of the most western harbour, as that alone which afforded full security; but it was necessary to cut two miles through a large floe with which it was filled. To effect this arduous operation, the seamen marked with boarding-pikes two parallel lines, at the distance of somewhat more than the breadth of the larger ship. They sawed along these two lines, and then by cross-sawings detached large pieces, which were separated diagonally in order to be floated out; and sometimes boat-sails were fastened to them to take the advantage of a favourable breeze. On the 26th the ships were established in five fathoms water, at about a cable's length from

but in respect to both, the ice at their entrance, and the apparent boundary of high land in the interior, led, as in the other instances, to a prompt and unfavourable conclusion.

The season was now somewhat advanced, the end of August approached, the sun set after a perpetual day of two months and a half, and a thick fog rendered the lengthening nights more gloomy. The land, seen at some distance, consisted of very high and steep mountains, presenting, however, some spots fit for human habitation. An opening forty-five miles wide, to the southward of a promontory which was named Cape Charlotte, was decided against in the usual summary manner. On the 30th August, the expedition came to a most magnificent inlet, bordered by lofty mountains of peculiar grandeur, while the water, being clear and free from ice, presented so tempting an appearance, that it was impossible to refrain from entering. This channel, which soon proved to be the Lancaster Sound of Baffin, was ascended for thirty miles; during which run officers and men crowded to topmast, filled with enthusiastic hope, and judging that it afforded much fairer hopes of success than any of those so hastily passed. Captain Ross, however, and those whom he consulted, never showed the same sanguine expectations. He soon thought that he discovered a high ridge stretching directly across the inlet; and though a great part of it was deeply involved in mist, yet a passage in this direction was judged to be hopeless. The sea being open, however, the commander proceeded; but about twelve o'clock Mr Beverley, the assistant-surgeon, came down from the crow's nest, and stated, that he

paratus for baking in a central position, and by veral other arrangements, the cabin was maintained in a very comfortable temperature; but still, around its extremities and in the bed-places, steam, vapour, and even the breath, settled, first as moisture and then as ice; to dry and remove these annoyances became therefore a part of their daily employment.

Mr Parry was, from the first, aware that nothing acted more strongly as an antiscorbutic, than to keep the men's minds in a lively and cheerful state. His plans for this purpose were very original, and proved very effectual. Arrangements were made for the occasional performance of a play, in a region very remote certainly from any to which the drama appeared congenial. Lieutenant Beechey was nominated stage-manager, and the officers came forward as amateur performers. The very expectation thus raised among the seamen, and the bustle of preparing a room for the purpose, were extremely salutary; and when the North Georgian theatre opened with "Miss in her Teens," these hardy tars were convulsed with laughter; not a little excited, perhaps, by viewing their officers in so singular and novel a position; at all events, the Arctic management was extremely popular. As the small stock contained in one or two chance volumes was exhausted, original compositions were produced, and afterwards formed into a little collection. The officers had another source of amusement in the North Georgian Gazette, of which Captain Sabine became editor, and all were invited to contribute to this chronicle of the frozen regions. Even those who hesitated to appear as

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vessel, were made to run round the deck, keepi... time to the tune of an organ. This movement th... did not at first entirely relish; but, no plea ag... it being admitted, they converted it at last in... matter of frolic.

By the above means health was maintained a... board the ships to a surprising degree. Early in J... nuary, however, Mr Scallon, the gunner, felt sym... toms, first in the legs and then in the gums, th... decidedly indicated the presence of scurvy, of wh... the immediate cause appeared to be the great c... lection of damp that had formed around his b... place. At this first alarm, all the antiscorbutics... board, lemon-juice, pickles, spruce-beer, &c., w... put into requisition; a small quantity of mus... and cress was also raised from mould placed o... the stove-pipe; and such was the success of th... measures, that in nine days the patient could wa... without pain. Farther on in the season a numb... of slighter cases occurred, which were somewhat ag... gravated by an accident. As the men were taki... their musical perambulation round the deck, a hou... erected on shore, and containing a number of th... most valuable instruments, was seen to be on fi... The crew instantly ran, pulled off the roof wi... ropes, knocked down a part of the sides, and bei... thus enabled to throw in large quantities of snow... succeeded in subduing the flames. Now, however... their faces presented a curious spectacle, every n... and cheek being white with frost-bites, while th... medical gentlemen, with their assistants, were ob... liged to run from one to the other, and rub them... with snow in order to restore animation. With on... mon the amputation of several of his fingers becam...

nuary, and no less than sixteen were added to sick-list.

The animal tribes disappeared early in the winfrom this frozen region. The officers, on the 15th tober, made a shooting-excursion, enjoying a very day, though with the thermometer 47° below freezing-point; but they did not find a deer, a e, or any animal which could be ranked as e. All of them, deserting this wintry realm, had the seas to America. There remained only k of wolves, which serenaded the crews nightt venturing to attack, but contriving to avoid captured. A beautiful white fox was caught made a pet of. On the 12th May one of the gave notice that he had seen a ptarmigan; and ion being thus excited, Mr Beverley next day ght one down, and on the 15th three coveys discovered. The footsteps of deer were also , which, from the impression made on the snow, ed to be moving northwards. From this time migans were supplied in tolerable numbers; but were made strictly a common good, being di- equally among the crew, with only a prefer- in favour of the sick. There was found, also, ed with moss under the snow, an abundance of herb sorrel, a most potent antidote against scur- . By these supplies, and by the more genial ther, the health of the crew, which at the end March had been in a somewhat alarming state, completely restored before the beginning of e. In extending their excursions, however, they re considerably incommoded by that distressing mmation of the eyes, produced from the glare snow, called *snow-blindness*. It was cured in a

few days by cold applications, and it was prevented in future by covering the eyes, or by wearing spectacles, in which crape was used instead of glass.

On the 16th March the North Georgian theatre was closed with an appropriate address, and the general attention was now turned to the means of extrication from the ice. By the 17th May the seamen had so far cut the ice from around the ships as to allow them to float; but in the sea it was still immovable. This interval of painful inaction was employed by Mr Parry in an excursion across Melville Island. The ground was still mostly covered with softened snow, and even the cleared tracts were extremely desolate, though chequered by intervals of fine verdure. Deer were seen traversing the plains in considerable numbers. To the north appeared another island, to which was given the name of Sabine. By the middle of June pools were every where formed; the dissolved water flowed in streams, and even in torrents, which rendered hunting and travelling unsafe. There were also channels of water in which boats could pass; yet throughout June and July the great covering of ice in the surrounding sea remained entire, and kept the ships in harbour. On the 2d of August, however, the whole mass, by one of those sudden movements to which it is liable, broke up and floated out; and the explorers had now open water in which to prosecute their discovery. It was consolatory to think that this was the very season at which they had last year entered Lancaster Sound; and if they could make as brilliant a voyage this summer, the following one would see them not far from Behring's Straits. But it was not without some obstructions

n the 4th they reached the same spot where rogress had been formerly arrested. On the hey were enabled to make a certain progress; vhich the frozen surface of the ocean assumed e compact and impenetrable aspect than had efore been witnessed. The officers ascended of the lofty heights which bordered the coast; a long reach of sea to the westward, no boun- vas seen to these icy barriers. There appear- y the western extremity of Melville Island, Cape Dundas; and in the distance a bold oast, which they named Banks' Land. As brisk easterly gale did not produce the slight- vement in this frozen surface, they were led ieve that on the other side there must be a barrier of land, by which it was held in a tate. On considering all circumstances, there red no alternative but to make their way home- while yet the season permitted. Some addi- observations were made, as they returned, on o coasts extending along Barrow's Strait.

Parry's arrival in Britain was hailed with ghest exultation. To have sailed upwards of degrees of longitude beyond the point reached y former navigator,—to have discovered so new lands, islands, and bays,—to have esta- d the much-contested existence of a Polar Sea of America,—finally, after a wintering of months, to have brought back his crew in a and vigorous state,*—were enough to raise me above that of any former Arctic voyager.

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ly one man died in the course of their long and perilous but whose decease was no way referable to a connexion e expedition, the origin of his malady having been of a date to the sailing of the ships.

No hesitation was felt as to sending out another expedition; but, considering the strength of the ultimate barriers which had twice arrested the progress of the last, it became important to consider whether there was not any other channel by which the Polar Sea, now ascertained to exist, might be reached and traversed with greater facility. In Hudson's Bay neither of the great northern sounds of the Welcome nor of Fox's Channel had been traced to a termination. Middleton, in the former inlet, had ascended higher than any other navigator; but a thick cloud had been raised around his reputation, and his *Frozen Strait*, after all, was very likely to be only a temporary barrier. If from either of these sounds a passage should open into the Polar Sea, it might be navigated in a much lower latitude than that in which Parry had wintered, and might perhaps be also free from those large insular masses in which he had been entangled. There was then fitted out a new expedition, in which the Fury, of 327 tons, was conjoined with the Hecla; the commander conceiving that two vessels of nearly equal dimensions were best calculated for co-operating with and aiding each other, while the examination of coasts and inlets could best be carried on by boats. This officer, now promoted to the rank of captain, hoisted his flag on board the Fury; while Captain Lyon, already distinguished by his services in Africa, received the command of the Hecla, and proved himself fully competent to the arduous duties of this new service. The equipment, the victualling, and the heating of the vessels, were all arranged with the greatest care, and with various improvements suggested by experience.

The expedition was ready to sail on the 8th May,

, and having then quitted the Nore, passed
ugh the Pentland Frith and by Cape Farewell,
ring repeated detention; but we shall not pause
re find it, on the 2d July, at the mouth of Hud-
Strait. Captain Parry, accustomed as he was
enes of Polar desolation, was struck with the
liarly dreary aspect which these shores pre-
d. The naked rocks, the snow still covering
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amounted to the number of fifty-four,—one
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ge floes, rendered very formidable by their ro-
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ften for hours together, and were only driven
a severe fall of snow. Although almost in
r at the numerous detentions they had ex-
ced, they recreated themselves from time to
y *matrimonial arrangements*, in which they

were so diligent that, it is said, there was scarcely a ball which did not end in a marriage.

Amid these obstructions the ships spent nineteen days in making seventy miles; which course, however, brought them, on the 21st, within two leagues of what are called the Savage Islands. On the following afternoon a loud shouting was heard over the ice, and soon after there appeared a numerous band of natives, paddling their canoes through the lanes of open water, or, where these failed, drawing them over the pieces of ice. Among a great number of *kayaks*, or boats rowed by a single man (see plate, p. 211), were five *oomiaks*, or women's

boats, constructed of a frame-work of wood and whalebone covered with deer-skins, having flat sides and bottom, and of considerable size. One of them, 25 feet by 8, contained women, boys, and children, to the number of twenty-one. Presently began a wild, merry, noisy scene of frolic and traffic. The natives carried it on with eagerness and even fury, stripping themselves of the very skins which formed their only covering, till they were in a state of total nudity, except the ladies, who always made a laudable reservation of their breeches. They

trove what they meant should be an excessively hard bargain; yet, being wholly ignorant of the value of the rich skins with which nature has invested the animals of this Arctic climate, they raised shouts of triumph when they obtained in exchange a nail, a saw, or a razor. Their aspect was wilder and more dishevelled than that of any other tribe even among this rude race; their character also seems fiercer and more savage; and indeed it is in this quarter that most of the tragical encounters with Esquimaux have occurred. Some of the ancient dames were pronounced to be the most hideous objects that mortal eye had ever beheld; inflamed eyes, wrinkled skin, black teeth, and deformed features, rendered them scarcely human; hence much apology was found for the dark and dire suspicions cherished by Frobisher's crew respecting one of these damsels, and the odd investigation to which it had prompted. The children were rather pretty; though, from being thrown carelessly into the bottom of the boats, they had much the appearance of the young of wild animals. Besides traffic, the natives carried on a great deal of rather rude frolic, like that of ill-regulated schoolboys. One of them got behind a sailor, shouted loudly in one ear, and gave him a hearty box on the other, which was hailed with a loud and general laugh. They also carried on a dance, consisting chiefly of violent leaping and stamping, though in tolerable time.

In spite of every obstruction, Captain Parry, early in August, reached the entrance of Fox's Channel, and came in view of Southampton Island. It was now the question, whether to sail directly up this channel, *and reach, by a* comparatively short

route, Repulse Bay and the higher latitudes, or to make the south-western circuit of Southampton Island, and ascend the beaten track of the Welcome. Captain Parry judiciously preferred the former, notwithstanding its uncertainties, on account of the great time which would be saved should this course be found practicable. On the 15th he came to a strait stretching westward, and apparently separating the island from other land on the north. Hoping to find this the Frozen Strait of Middleton, he entered it; but it soon proved a spacious and beautiful basin, enclosed by land on every side. He named it the Duke of York's Bay, and considered it one of the finest harbours in the world; but, after admiring a large floe covered entirely with minerals, shells, and plants, he moved out of it, and pursued the voyage. On the 21st the navigators found themselves in another strait, not much incumbered with ice, but darkened by thick fogs; and, before they almost knew where they were, a heavy swell from the southward showed that they had passed through the Frozen Strait, and were in the broad channel of the Welcome. They speedily entered Repulse Bay, in which modern speculation had cherished the hope of a passage; but a short investigation made by boats in every direction proved that it was really, as Middleton had described it, completely enclosed. A good deal of time had thus been lost through the scepticism so unjustly attached to the narrative of that eminent navigator.

Captain Parry, having come with all speed out of Repulse Bay, began the career of discovery along a coast hitherto unknown. An inlet was soon found,

alled by the name of Gore; but, when ascend-
certain length, it was not found to reach far
d. At the mouth of this opening the valleys
richly clad with grass and moss, the birds sing-
butterflies and other insects displaying the most
y tints, so that the sailors might have fancied
selves in some happier climate, had not the
ty piles of ice in the Frozen Strait told a dif-
t tale. Hunting-parties traversed the country
rious directions, and the game-laws of the pre-
g year were strictly re-enacted, by which every
; or bird slain was to be employed for the ge-
l good, allowing only the head and legs as a
esr to the captor. The latter, however, adopt-
d made good a theory, agreeably to which the
iption *head* was greatly extended, so as to in-
e even several joints of the back-bone.

aving passed Gore Inlet, the expedition found
among those numerous isles described by Mid-
n, which formed a complete labyrinth of va-
shapes and sizes, while strong currents setting
een them in various directions, amid fogs and
ing ice, rendered the navigation truly perilous.
Fury was assailed by successive masses rush-
out from an inlet; her anchor was dragged
the rocks with a grinding noise, and on being
n up, the two flukes were found to be broken
The same vessel was afterwards carried along
violent current, amid thick mist, without there
g any means of guiding or altering its direc-
; so that Captain Parry considers it altogether
idential that she was not dashed to pieces against
urrounding rocks. However, one channel, and
only, *was found, by which* the mariners at last

made their way through this perilous maze. No sooner had they reached the open sea, than, being obliged to run before a strong northerly breeze, they were much disheartened to find themselves, on the 3d of September, at the very point which they had left the preceding 6th of August. All the interval had been employed in the mere negative discovery, that there was nothing to discover.

Captain Parry soon reached the northern coast, and resumed his task, which was rendered very tedious by the necessity of examining every opening and channel, in the hope that each might prove the desired passage into the Polar Ocean. He first explored a large inlet, the name of which he gave to Captain Lyon,—then a smaller one, which was named from Lieutenant Hoppner; and, by connecting these with Gore Inlet, he completed his delineation of the coast. The seamen had then the pleasure of opening a traffic with a party of Esquimaux, whose first timidity was soon overcome by the hope of being supplied with some iron tools. In the course of this transaction, the surprise of the crew was roused by the conduct of a lady, who had sold one boot, but obstinately retained the other in disregard of the strongest remonstrances as to the ridiculous figure she in consequence made. At length suspicion rose to such a pitch that, all courtesy being set aside, her person was laid hold of, and the boot pulled off. Then indeed it proved a complete depository of stolen treasure, since no less than two spoons and a pewter plate were found within this capacious receptacle.

The end of September now approached, and Captain Parry found himself suddenly in the depth of

r. Snow had been falling during the whole short summer; but the united warmth of the d earth had melted it as it fell, and left the l still open to the sun's rays. In one mo- as it were, the snow made good its lodgement, read its white and dazzling mantle over land a. The rays being then no longer able to the soil, the whole became subject to perma- nd impenetrable frost. Some parts of the were indeed dissolved, and then refrozen in and beautiful forms of crystallization; where- Melville Island the dead white covering once over nature had never changed its aspect. e serious symptom existed in the rapid for- of the soft or pancake ice on the surface of ep. The obstacle presented by this crust was so slight as to be scarcely felt by a ship be- favouring gale; but it continually increased, vessel, rolling from side to side, and all her es failing, became, like Gulliver, bound by ble hands of Lilliputians. At the same time rious pieces of drift-ice, which were tossing in a without, had been cemented into one great alled "the ice," that threatened every mo- o bear down upon the vessels, and dash them es. Under this combination of circumstan- e navigators could no longer even attempt to the land, but determined to saw into the heart arge adjoining floe, and there take up their r-quarters. There was about half a mile to ate, which, in the present soft state of the ke-ice, was not very laborious. It was, how- far from pleasant, the ice bending like leather th *their feet, and causing* them sometimes to

sink into the water, whence they did not escape without a very cold bath.

Captain Parry was now frozen up for another winter in the midst of the Northern Sea, and he forthwith applied himself to make the necessary arrangements with that judicious foresight which had been already so conspicuous in the same trying circumstances. Through lessons taught by experience, and by several ingenious contrivances, the ships were much more thoroughly heated than in the former voyage; the provisioning, too, was more ample, and antidotes against scurvy still more copiously supplied. The Polar theatre opened on the 9th November with "The Rivals." Captains Parry and Lyon volunteered to appear as Sir Anthony and Captain Absolute; while the ladies had very generously removed an ample growth of beard, disregarding the comfortable warmth which it afforded in an Arctic climate. The company were well received, and carried through their performances with unabated spirit; yet this season does not seem to have gone off quite with the same eclat as the preceding. Novelty, from the first the chief attraction, had worn off, and the discomfort of a stage, the exhibitions of which were attended with a cold thirty degrees under the freezing-point, became rather severe. The sailors found for themselves a more sober and useful, as well as efficacious remedy against *ennui*. They established a school, in which the better instructed undertook to revive the knowledge of letters among others who had almost entirely lost the slight tincture that they had once imbibed. These hardy tars applied themselves to their book with ardent and laudable zeal, and showed a

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Dutch and Germans, were seen waltzing on
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a severe fall of snow. Although almost in
r at the numerous detentions they had ex-
ced, they recreated themselves from time to
y *matrimonial arrangements*, in which they

the earth, and the long northern winter has closed in, the heavens become a gay scene, through which the most brilliant meteors are perpetually playing. Those singular and beautiful streams of light, called commonly the *Aurora Borealis*, or Northern Morning, keep up an almost incessant illumination. They were discerned in full splendour by Captains Parry and Lyon during their Arctic residence. The light had a tendency to form an irregular arch, which, in calm weather, was often very distinct, though its upper boundary was seldom well defined; but, whenever the air became agitated, showers of rays spread in every direction, with the brilliancy and rapidity of lightning. Sometimes long bands of light were spread out with inconceivable rapidity, but always appearing to move to and from a fixed point, somewhat like a riband held in the hand and shaken with an undulatory motion. No rule, however, could be traced in the movement of those lighter parcels called "the merry dancers," which flew about perpetually in every direction and towards every quarter. In stormy weather the northern lights always became more rapid in their motions, sharing all the wildness of the blast. They gave an indescribable air of magic to the whole scene, and made it not wonderful that, by the untaught Indian, they should be viewed as "the spirits of his fathers roaming through the land of souls."

Several questions have been agitated with respect to the *Aurora*. It has been said to be accompanied with a hissing and cracking noise; and indeed Captain Lyon observes, that the sudden glare and rapid bursts of those wondrous showers of fire make

drove what they meant should be an excessively hard bargain; yet, being wholly ignorant of the value of the rich skins with which nature has invested the animals of this Arctic climate, they raised shouts of triumph when they obtained in exchange a nail, a saw, or a razor. Their aspect was wilder and more dishevelled than that of any other tribe even among this rude race; their character also seems fiercer and more savage; and indeed it is in this quarter that most of the tragical encounters with Esquimaux have occurred. Some of the ancient dames were pronounced to be the most hideous objects that mortal eye had ever beheld; inflamed eyes, wrinkled skin, black teeth, and deformed features, rendered them scarcely human; hence much apology was found for the dark and dire suspicions cherished by Frobisher's crew respecting one of these damsels, and the odd investigation to which it had prompted. The children were rather pretty; though, from being thrown carelessly into the bottom of the boats, they had much the appearance of the young of wild animals. Besides traffic, the natives carried on a great deal of rather rude frolic, like that of ill-regulated schoolboys. One of them got behind a sailor, shouted loudly in one ear, and gave him a hearty box on the other, which was hailed with a loud and general laugh. They also carried on a dance, consisting chiefly of violent leaping and stamping, though in tolerable time.

In spite of every obstruction, Captain Parry, early in August, reached the entrance of Fox's Channel, and came in view of Southampton Island. It was now the question, whether to sail directly up this channel, and reach, by a comparatively short

with these accompaniments, shine at once in ferent quarters of the firmament. Ellis, wh with Moor and Smith to Hudson's Bay, has six in one sky. They are most brilliant at break, diminish in lustre as the real sun as but again brighten at his setting. The sun hi for some time before he finally departs for the ter, and also after his reappearance in spring ges the sky with hues of matchless brilliancy. edges of the clouds near that luminary often sent a fiery or burnished appearance, while t posite horizon glows with a deep purple, grad softening as it ascends into a delicate rose-colo inconceivable beauty. As the solar orb at periods never rises more than a few degrees the horizon, he is, as it were, in a state of p nent rising and setting, and seems to exhibit l and more variously the beautiful appearances ing out of that position. At this time the eye can view him without being dazzled; and tain Lyon considers the softened blush-colou his rays exhibit through frost as possessing a which surpasses even that of an Italian sky.

Amid all these resources, the monotony o scene was beginning to be oppressive, when i relieved by an unexpected incident, which at ed universal attention. On the morning of t February, a number of distant figures were moving over the ice, and, when they were vi through glasses, the cry was raised, "Esquim Esquimaux!" As it was of great importance t courteously and discreetly with these stranger two commanders formed a party of six, who w in files behind each other, that they might eau

storm. The Esquimaux then formed themselves into a line of twenty-one, advanced slowly, and at length made a full stop. In this order they saluted the strangers by the usual movement of beating their breasts. They were substantially clothed in fish and dark deer-skins, and appeared a much more quiet and orderly race than their rude countrymen of the Savage Islands. On the English producing their precious commodities, knives, nails, and needles, an active traffic was set on foot; and the females, on seeing that much importance was attached to the skins which formed their clothing, began immediately to strip off those with which their fair persons were covered. The captains felt alarm for the consequences, under a temperature more than fifty degrees below the freezing-point; but were soon consoled by discerning underneath another comfortable suit. They were now cordially invited to enter their habitations, to which they agreed most readily, although there appeared no habitations to enter. However, they were led to a hole in the snow, and instructed to place themselves on their hands and knees, in which position, having crept through a long winding passage, they arrived at a little hall with a dome-shaped roof, whence doors opened into three apartments, each occupied by a separate family. These proved to be five distinct mansions, tenanted by sixty-four men, women, and children. The materials and structure of these abodes were still more singular than their position. Snow, the chief product of the northern tempests, became here a protection against its own cold. It was formed into curved slabs of about two feet *long and half a foot thick*, put together by a *most judicious masonry, so* as to present a species

few days by cold applications, and it was prevented in future by covering the eyes, or by wearing spectacles, in which crape was used instead of glass.

On the 16th March the North Georgian theatre was closed with an appropriate address, and the general attention was now turned to the means of extrication from the ice. By the 17th May the seamen had so far cut the ice from around the ships as to allow them to float; but in the sea it was still immovable. This interval of painful inaction was employed by Mr Parry in an excursion across Melville Island. The ground was still mostly covered with softened snow, and even the cleared tracts were extremely desolate, though chequered by intervals of fine verdure. Deer were seen traversing the plains in considerable numbers. To the north appeared another island, to which was given the name of Sabine. By the middle of June pools were every where formed; the dissolved water flowed in streams, and even in torrents, which rendered hunting and travelling unsafe. There were also channels of water in which boats could pass; yet throughout June and July the great covering of ice in the surrounding sea remained entire, and kept the ships in harbour. On the 2d of August, however, the whole mass, by one of those sudden movements to which it is liable, broke up and floated out; and the explorers had now open water in which to prosecute their discovery. It was consolatory to think that this was the very season at which they had last year entered Lancaster Sound; and if they could make as brilliant a voyage this summer, the following one would see them not far from Behring's Straits. But it was not without some obstructions

1 the 4th they reached the same spot where rogress had been formerly arrested. On the hey were enabled to make a certain progress; vhich the frozen surface of the ocean assumed e compact and impenetrable aspect than had efore been witnessed. The officers ascended f the lofty heights which bordered the coast; a long reach of sea to the westward, no boun- vas seen to these icy barriers. There appear- y the western extremity of Melville Island, Cape Dundas; and in the distance a bold oast, which they named Banks' Land. As brisk easterly gale did not produce the slight- vement in this frozen surface, they were led ieve that on the other side there must be a barrier of land, by which it was held in a tate. On considering all circumstances, there ed no alternative but to make their way home- while yet the season permitted. Some addi- observations were made, as they returned, on o coasts extending along Barrow's Strait.

Parry's arrival in Britain was hailed with ghest exultation. To have sailed upwards of degrees of longitude beyond the point reached y former navigator,—to have discovered so new lands, islands, and bays,—to have esta- l the much-contested existence of a Polar Sea of America,—finally, after a wintering of months, to have brought back his crew in a and vigorous state,*—were enough to raise ne above that of any former Arctic voyager.

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y one man died in the course of their long and perilous but whose decease was no way referable to a connexion expedition, the origin of his malady having been of a date to the sailing of the ships.

of dome-shaped structures, rising six or seven feet above the ground, and about fourteen or sixteen feet in diameter. The mode of inserting the key-slab, which bound the whole together, would, it is said, have been satisfactory to the eye of a regularly-bred artist. A plate of ice in the roof served as a window, and admitted the light as through ground glass; which, when it shone on the interior mansions, in their first state of pure and beautiful transparency, produced soft and glittering tints of green and blue. But, alas! ere long, accumulated dirt, smoke, and offal, converted these apartments into a scene of blackness and stench. This little village appeared at first like a cluster of hillocks amid the snow; but successive falls filled up the vacuities, and converted it almost into a smooth surface, so that even boys and dogs were seen walking and sporting over the roofs; though, as summer and thaw advanced, a leg sometimes penetrated, and appeared to the alarmed inmates below. Then, too, the ceiling begins to drip; and the tenants, after repeatedly endeavouring to patch it with fresh slabs, and catching, of course, some severe colds, are obliged to betake themselves to a more durable covering. In each room, suspended from the roof, burns a lamp, with a long wick formed of a peculiar species of moss, fed with the oil of the seal or the walrus, and serving at once for light, heat, and cookery. The family sit round the apartment on a bench formed of snow, strewed with slender twigs, and covered with skins; but this part of the dwelling must be carefully kept a good deal below the freezing-point, since a higher temperature would speedily dissolve the walls of the frail tenement.

After a cheerful and friendly visit, an invitation

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and having then quitted the Nore, passed
h the Pentland Frith and by Cape Farewell,
ng repeated detention; but we shall not pause
find it, on the 2d July, at the mouth of Hud-
Strait. Captain Parry, accustomed as he was
nes of Polar desolation, was struck with the
arly dreary aspect which these shores pre-
. The naked rocks, the snow still covering
lleys, and the thick fogs that hung over them,
red the scene indescribably gloomy. The ships
soon surrounded by icebergs, which in one
amounted to the number of fifty-four,—one
258 feet above the sea. They were attended
ge floes, rendered very formidable by their ro-
motion. The peculiar danger of these straits,
remarked by former navigators, arises from
trong tides and currents that rush in from
tlantic, and cause continual and violent move-
among the huge icy masses with which the
els are filled. Captain Lyon had proof of their
th; for two of his hawsers were repeatedly
l away, and the best bower-anchor, weighing
than a ton, wrenched from the bows, and
n off as if it had been crockery-ware. Amid
troubles the sailors were amused by the sight
e companion-ships, two belonging to the Hud-
Bay Company, and one bringing out settlers for
Selkirk's colony. These emigrants, who were
y Dutch and Germans, were seen waltzing on
often for hours together, and were only driven
a severe fall of snow. Although almost in
ir at the numerous detentions they had ex-
nced, they recreated themselves from time to
by matrimonial arrangements, in which they

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as given to the Esquimaux to repair to the ships, hen fifty accepted it with alacrity. Partly walking, d partly dancing, they speedily reached the ves-ls, where a striking congeniality of spirit was soon nd to exist between them and the sailors; bois-ous fun forming to each the chief source of en-rment. A fiddle and drum being produced, the tives struck up a dance, or rather a succession of hement leaps, accompanied with loud shouts and ls. Seeing the Kabloonas, or Whites, as they led the strangers, engaged in the game of leap-g, they attempted to join; but not duly under-nding how to measure their movements, they de such over-leaps as sometimes to pitch on the wn of their heads: however, they sprang up quite concerned. Their attention was specially at-cted to the effects of a winch, by which one sailor cibly drew towards him a party of ten or twelve their number, though grinning and straining ery nerve in resistance; but, finding all in vain, ey joined in the burst of good-humoured laughter l tears streamed from their eyes. One intelligent l man followed Captain Lyon to the cabin, and ewed with rational surprise various objects which ere presented. The performance of a hand-organ d a musical snuff-box struck him with breathless miration; and on seeing drawings of the Esqui-aux in Hudson's Strait, he soon understood them, d showed the difference between their dress and pearance and that of his own tribe. On viewing sketch of a bear, he raised a loud cry, drew up is sleeves, and showed the scars of three deep ounds received in encounters with that terrible nimal. *The seamen sought* to treat their visiters

to such delicacies as the ship afforded, but were for some time at a loss to discover how their palate might be gratified. Grog, the seamen's choicest luxury, only one old woman could be induced to taste. Sugar, sweetmeats, gingerbread, were accepted only out of complaisance, and eaten with manifest disgust; but train-oil, entrails of animals, and any thing consisting of pure fat or grease, were swallowed in immense quantities, and with symptoms of exquisite delight. This taste was first evinced by an old woman, who, having sold her oil-pot, took care previously to empty the contents into her stomach, and lick it clean with her tongue, regardless of her face becoming thus as black as soot. Captain Lyon being disposed to ingratiate himself with rather a handsome young damsel, presented her with a good moulded candle, six in the pound. She immediately began to eat off the tallow with every symptom of the greatest enjoyment, after which she thrust the wick into her mouth; but the captain, concerned for the consequences to this delicate virgin, insisted on pulling it out. In preference to strong liquors they drank water in the most enormous quantities, by gallons at a time, and two quarts at a draught; a supply of liquid which is perhaps necessary to dissolve their gross food, and which, being obtained only from snow artificially melted, is a scarce winter article.

The Esquimaux were attended by a large pack of wolves, which seemed to follow solely to pick up whatever might be found straggling or defenceless about their habitation. These animals continue through the whole winter ravening with hunger and in eager watch for any victim which might

ne within their reach. For this purpose they
k a station between the huts and the ships, ready
act against either as circumstances might dictate.
ey did not attack the sailors even when unarm-
though they were often seen hovering through
gloom in search of prey. Every stray dog was
ed, and in a few minutes devoured. Two
ves broke into a snow-house close to the ship,
l carried off each a dog larger than himself; but,
ng pursued, one of them was obliged to drop his
ty. In the extremity of their hunger they hesi-
d not to tear and devour the cables and canvass
nd lying near the vessel. A deadly war was
refore waged against these fierce animals, of
ich thirteen were killed in the course of the sea-
, and sent to be eaten by the Esquimaux,—a
sent which was received with much satisfaction.
As spring advanced, the attention of the officers
s almost wholly engrossed by the prospects of na-
ation and discovery during the approaching sum-
r. Their Esquimaux neighbours, by no means
titute of intelligence, and accustomed to shift
tinually from place to place, were found to have
uired a very extensive knowledge of the seas
l coasts of this part of America. One female, in
ticular, named Iligliuk, who bore even among
r countrymen the character of "a wise woman,"
s, after a little instruction, enabled to convey to
strangers the outlines of her geographical know-
ge in the form of a rude map. A pencil being
t into her hand, she traced the shore from Repulse
y with such a tolerable measure of accuracy as
spired great confidence in what she might farther
lineate. Iligliuk then began to exhibit a coast

l not see a yard before them. Finding some-
s no track, sometimes several leading in differ-
lirections, they were soon bewildered, and wan-
l they knew not where among heavy hum-
ıs of ice. The frost-bites were so numerous
they could not muster hands enough to rub
arts affected, and some began to sink into that
lful insensibility which is the prelude to death
ld, and to reel about like drunken men. Thus
had resigned almost every hope of deliverance,
ı providentially there appeared a new beaten
, which they determined to follow, and in ten
ıtes it led them to the ships. Their arrival
caused indescribable joy, as they had been
y given up for lost, while no party could be
in search of them without imminent risk of
ng their fate.

ı the 8th May, in a more favourable season,
ain Lyon undertook another journey. In a
hours he crossed Winter Island, and reached
ıtrait separating it from the continent, covered
heavy-grounded ice very difficult to walk up.
The sun, now powerful, produced such a glare
ıe snow as affected several of the party with se-
blindness; while the only means of procuring
r was by holding up plates of ice in the solar
by which they were gradually melted. The
', having reached the mainland, proceeded a
derable way along the coast, crossing several
upon the ice; but at last they came in view of
ld cape, which they fondly and vainly hoped
the extreme point of America. Here they were
aken by a storm of snow, but not accompanied,
the *former, with perilous cold*; it melted as it

fell, and formed a pulp which penetrated into their tents, yet did not dissolve so completely as to be fit for drinking. This storm kept them imprisoned for sixty-eight hours; which dreary interval they enlivened by reading in turn from three books they chanced to have with them, and as soon as the sun began to gleam they hastened to return to the ships.

The end of May presented a gloomy aspect, the season being still more backward than in the more northerly and rigorous climate of Melville Island. The snow was dissolved only on some spots, and hardly any symptoms of vegetation were yet visible; but, as there was an extent of open water in the sea without, Captain Parry determined upon sawing his way through to it. This was a most laborious process, the ice being much thicker and stronger than at the commencement of the season; and after the seamen had continued at it more than a fortnight, and were within forty-eight hours of completing a canal, the body of the ice made a movement which closed it entirely up. As they were looking on in despair at this disaster another passage opened, which they attempted to render available. This, too, was closed in the same manner; but these agitations had at last the effect of causing the whole mass to float out into the open sea, and thus leaving to them an unobstructed passage.

On the 2d July the ships began their career of discovery. They had a favourable run through the sea, which formed a continuation of Fox's Channel, but a strong current from the north was bringing down the masses of ice with great force. The Hecla underwent some severe pressures, and within five or six hundred yards of the Fury, two large floes dashed

gainst each other with such a tremendous con-
ion that numberless huge masses were thrown
or sixty feet into the air. The vessel, had she
: for a moment within the sphere of these move-
ts, must have been dashed to pieces,—happily
scaped. This current, however, was highly pro-
ng, since it could not be traced to the mouth of
son's Strait, but must have come from the West-
Ocean, which they were so anxious to reach.
he ice passed by, and the ships proceeded with
'ouring wind and tide. The shores began now
it on their summer aspect; the snow had nearly
ppeared; and the ground was covered with the
st bloom of Arctic vegetation. The expedition
: to a fine river named Barrow, which formed a
picturesque fall down rocks richly fringed with
brilliant plants. Here the rein-deer sporting,
eider-duck, the golden-plover, and the snow-
ing, spreading their wings, produced a gay and
ghtful scene. On the 14th the navigators reach-
ie Island of Amitioke, which had been described
ituated near the strait they were then endea-
ring to reach. They saw about two hundred
ruses lying piled, as usual, over each other on
loose drift-ice. A boat's crew from each ship
eeded to the attack; but these gallant amphibia,
e with their cubs mounted on their backs, made
most desperate resistance, and one of them tore
planks of a boat in two or three places. Three
were killed, the flesh of which was found toler-
, affording a variety amid the ordinary sea-diet.
The discoverers now proceeded northwards, and
before them a bold and high range of coast,
arated apparently from that along which they

were sailing. This feature, agreeing with the in
cations of the fair Iligliuk, flattered them that t
were approaching the strait exhibited by her
forming the entrance into the Polar Basin. T
pushed on full of hope and animation, and v
farther cheered by reaching the small Island of
loolik, which she had described as situated at
very commencement of the passage. Accordi
they soon saw the strait stretching westward b
them in long perspective; but, alas! they disc
ed at the same moment an unbroken sheet c
from shore to shore, crossing and blocking u
passage; and this not a loose accidental floe
the ice of the preceding winter, on which the
summer sun had not produced the slightest ch
Unable to advance a single step, they amused t
selves with land-excursions in different direct
and Captain Parry at length determined, o
14th August, with a party of six, to underta
expedition along the frozen surface of the
The journey was very laborious, the ice being
times thrown up in rugged hummocks, and occ
ally leaving large spaces of open water, which
necessary to cross on a plank, or on pieces of ic
stead of boats. In four days they came in vie
peninsula terminated by a bold cape, the appr
which was guarded by successive ranges of
resembling the tiers or galleries of a high an
manding fortification. The party, however,
bled to the summit, whence they enjoyed a mo
tifying spectacle. They were at the narrowe
of the strait, here about two miles across, wit
or current running through it at the rate of tw
an hour. Westward the shores on each side

d, till, for three points of the compass and amid a
ar horizon, no land was visible. The captain
ained not that from this position he beheld the
ther Sea; into which, notwithstanding the formi-
ble barriers of ice which intervened, he cherished
e most sanguine hopes of forcing his way. He
med this the Strait of the Fury and Hecla, and
ve the sailors an extra can of grog, to drink a safe
d speedy passage through its channel.

Captain Parry now lost no time in returning to the
ips, where his arrival was joyful and seasonable;
r the opposing barrier, which had been gradually
ckening and breaking into various rents and fis-
res, at once almost entirely disappeared, and the
ips next morning were in open water. On the
st they got under weigh; and, though retarded by
es and other obstructions, had arrived on the 26th
t that central and narrowest channel which the
mmander had formerly reached. A brisk breeze
w sprang up, the sky cleared, they dashed across
current of three or four knots an hour, and san-
inely hoped for an entire success, which would
mpensate so many delays and disappointments.
ddenly, from the crow's nest above, it was an-
unced that ice, in a continuous and impenetrable
ld, unmoved from its winter station, occupied the
hole breadth of the channel. In an hour they
ached this barrier, which they found soft, porous,
d what is termed rotten. Spreading all their can-
s, they bore down upon it, and actually forced
eir way through a space of three or four hundred
rds; but there they stuck, and found their pro-
ess arrested by a fixed and impenetrable mass.
om this point, during the whole season, the ships

were unable to advance a single step. Nor ha crews any means of exerting their activity e in land-journeys. Captain Lyon undertook a pedition southward, to ascertain if any inlet or age from sea, to sea in this direction, had es notice. The country, however, was so filled rugged and rocky hills, some a thousand feet and with chains of lakes in which much ic floating, that he could not proceed above seven Though it was the beginning of September, th son was only that of early spring; and the b the poppy and saxifrage were just unfolding, prematurely nipped by the fast-approaching w

More satisfactory information was derive another excursion made by Messrs Reid and man, who penetrated sixty miles westward the southern coast of Cockburn Island, til reached a pinnacle, whence they saw, beyc doubt, the Polar Ocean spreading its boundl panse before them; but tremendous barriers filled the strait, and precluded all approach t that great and desired object.

It was now the middle of September, a usual symptoms, of deer trooping in herds ward, floating pieces of ice consolidating into and the thin pancake-crust forming on the of the waters, reminded the mariners, not or they could hope for no farther removal of stacles which arrested their progress, but th must lose no time in providing winter-q The middle of the strait, at the spot where tl been first stopped, occurred as the station they would be most likely to push future disc but prudence suggested a doubt, whether th

ised in this icy prison with such strong barriers
ach side, might ever be able to effect their ex-
ation. The chance of being shut up here for
ne months, surrounded by rocks and ice, amid
privations of an Arctic winter, appeared, at all
nts, a serious consideration. By returning to
olik, they would be ready to catch the earliest
ing, which was expected to take place on the
ern side, from whence a few days would then
g them to their present station.

On the 30th October, by the usual operation of
ing, the ships were established in a harbour at
olik. The ensuing season was passed with the
t careful attention to the health and comfort of the
s; but though their spirits did not sink, there
ars to have been, on the whole, less of gayety
lightness of heart than in the two former win-
ings. We hear nothing of the drama or even of
school. In this position, north of Winter Island,
y were deprived for about seven weeks of the
's cheering beams. On the 2d December refrac-
n still showed, from the deck of the Fury, about
sixteenth part of his disk. About the new year
urus and *Capella*, stars of the first magnitude,
visible for half an hour before and after mid-
. On the 5th January, 1823, the horizon was
rightly suffused with red that they hoped ere
to see the sun's orb burst forth; but a fortnight
ick fog occasioned a disappointment. On the
, the sky having cleared, they saw him rise at-
ed by two parhelia, and both crews turned out
joy the novelty and splendour of this cheering
acle.

he sailors *found at Igloolik* a colony of Esqui-

maux, who received them at first with surprise and some degree of alarm; but on learning they were from Winter Island, and intimate with its tenants of last season, they hailed them at once as familiar acquaintances. These natives belonged to the same tribe, and were connected by alliance and close relationship with many individuals of the Winter Island party; of whom, therefore, they were delighted to receive tidings. The crews spent the winter with them on quite a friendly footing, and rendered important services to them during a period of severe sickness. This intercourse, however, was not on the whole nearly so satisfactory as in the former place and season. It began to be observed that their attachment to the *Kabloonas* was greatly prompted by interest and by the hope of extracting presents; that they begged for food and gifts almost without intermission, and yet showed no gratitude on receiving them; taking much less into consideration what they themselves got than what others got more than they. The indifference shown towards such of their own tribe as were in a debilitated and suffering state was viewed also with much dissatisfaction. Kagha, a widow, cursed certainly with a most frightful temper, was found almost perishing through neglect. Captain Lyon took her into his own cabin, where, however, her filth and scolding made her a perfect nuisance; so that, after being recruited and clothed in two folds of deer-skin, she was remanded to the huts. Ten days after she was found at the point of death, solely, it appeared, through want of food; and, though removed immediately to the ship's hospital, she died next day. Our people were also much displeased at the stoical

lessness with which the relations received notice of two of their deceased kindred, whom the dogs had dug up from under the snow, that formed their only covering, and then devoured. It was indeed very difficult to find an earthy grave beneath the glebe, now frozen as hard as rock; but an Esquimaux acquaintance having lost his wife, the sailors piled over her such a heap of stones as might defy the attempts of all the animals, wild and tame, which prowl throughout this dreary region. The man gave thanks, but not cordially; he even expressed a dread lest the pressure of this huge pile would be painfully felt by his deceased spouse; and soon after, when an infant died, he declared her wholly incapable of bearing such a burden, and would allow nothing but snow to be laid over her.

The Esquimaux, during this expedition, became the subjects of a more minute observation than had ever before been made upon them by Europeans. They constitute a most widely-diffused race, occupying all the shores of the Northern Ocean, and embracing nearly the entire circuit of the globe. Richardson and Franklin found them along the whole coast of the American Polar Sea; Kotzebue in the channel near Behring's Straits. The Samoiedes and Kamtschadales, in Northern Asia, seem to belong to the same family. A similarity of visage and figure, boats, huts, and instruments,—even a resemblance in habits, character, and mode of life,—might have been produced by the common pressure of the same very peculiar outward circumstances. The affinity of speech, however, which is such as proves the dialects of all the Esquimaux to be mere varieties of one common language, affords

a clear proof that an original race from some one quarter has spread over the whole range of those immense and desolate shores. This migration must have been facilitated by the vast continuity of coast which stretches along the Arctic Ocean, and is not equalled in any other quarter. Hence, probably, the Esquimaux, at distant ages, connected the old and the new continents, which at all other points were then wholly unknown to each other.

The external form of that people seems influenced, and as it were characterized, by the severity of the climate. Their stature is decidedly lower than that of the European; five feet nine inches being considered even in a man as almost gigantic. Though the trunk of the body is somewhat thick, all the extremities are small, especially the hands and feet, and the fingers short. The face is broad and flat, the nose small, and at the same time sunk so deep, that in some instances a ruler could be applied from cheek to cheek without touching it. It is somewhere observed that their visage presents that peculiar form which the human face naturally assumes under exposure to intense cold, when all the projecting features are drawn in and the cheeks consequently pushed out. In the same way exposure to the weather may perhaps produce the high cheek-bones of mountaineers. Under these modifications, however, both their body and limbs are very tolerably shaped. Even the female countenance, though without pretensions to regular beauty, is often agreeable, having a frank and good-humoured expression; and, were it cleared of the thick crust of grease and dirt, so as to exhibit the real complexion, which is only that of a deep brunette, it might, even in

Europe, be reckoned handsome. The skin is unctuous and unpleasantly cold to the touch; the flesh soft and flabby; owing probably to the fat animal substances which form the principal part of their food.

Dress, through the necessity imposed by the climate, is much more ample, and prepared with greater care than is usual among other savage tribes. That of the men chiefly consists in a double coat of deer-skin; the inner part of which, having the hair

placed next the body, serves as a shirt, while from the outer a spacious hood is raised to cover the head. The breeches of the same material, and also double, reach down, overlapping the boots, which extend to the knee, and are composed either of deer-skin, or, if intended for hunting and travelling, of the hide of the seal and walrus. The dress of the females consists of the same particulars, with only some variations in form. They considered themselves particularly fortunate in wearing breeches, and could not hear without pity of their sisters in Europe, whom the caprice of fashion had deprived of so comfortable an habiliment. Their chief distinction lay in their boots, framed of such capacious dimensions as to make each leg appear as thick as the body, and allow them to move only in a waddling gait, similar to that of Muscovy ducks. These boots form, however, most spacious receptacles for whatever goods, lawful or unlawful, may come into the possession of the fair wearer. Captain Parry suspects that this huge buskin was originally constructed as a receptacle for their children,—a practice still prevalent among some tribes,—and thus retains its old form, though the hood is now generally substituted for this domestic purpose.

The Esquimaux do not huddle on these garments in a rude and careless manner, as a mere protection against the fierce influence of the climate; they display, like other savages, a passion for embellishment and finery. Their clothes are neatly sewed with threads made from the sinews of animals; the effect of their rich furs is heightened by being arranged in stripes of various colours, and by fringes along the border, adjusted often with considerable

ce. They sought anxiously for beads, in lieu of ich they had ornamented themselves with gir- composed of the teeth of the fox, wolf, or k-ox; and one female had fringed her jacket a long row of foxes' noses. It was suspected these ornaments might be regarded in some e under the character of amulets or charms. de the Esquimaux omit that universal orna- t of savages, the painting of the human skin. is executed, not by the Indian process of punc- g, but by a species of sewing. The women w under the epidermis a needle, with a thread in lamp-black and oil, which being taken out, pressure applied to the part, leaves behind it a anent olive tint. This operation, when per- ed with complete success, does not draw blood; the execution is seldom carried to that degree perfection. The face, arms, thighs, and some- es the breasts of the females, are profusely co- ed with this artificial tint.

The labour necessary for subsistence under this gorous climate is more arduous, and occupies a reater share of time than among any other race ther civilized or savage. The ground, frozen for ore than nine months of the year, yields neither ot nor herb which can form a standard article of od. No tame animals are reared for this purpose; eir dogs being so applied only in the last extre- ity. Hunting is their only resource; and hence eir days are spent in the chase of the wild ani- als which inhabit the sea and the shore. They ad thus a life of contrivance and adventure, in e course of which energy and hardihood of cha- cter are formed, and many faculties amply de-

veloped. In the absence, or extreme scarcity, of wood and iron they use the bones of animals, which they have of all shapes and sizes; yet this is often found too inflexible a material; while their cord or line is formed by cutting the toughest and most elastic skins into long stripes. During the short summer, they pursue with bow and arrow the deer, whose flesh as meat, and whose hide as clothing, are esteemed above all others. The eider and other ducks also furnish them with food; while the skin, with the feathers inwards, forms a light and comfortable clothing. The early winter, however, compels these animals, in large bands, to move into more genial climes; and hence, for nine months in the year, their food must be found in the waters. These indeed are filled with the large cetaceous fishes, the seal, the walrus, and even the whale; but the hunters and the game are separated by a thick covering of ice. These animals, however, though they make their chief dwellings beneath the waves, as formerly observed, experience the necessity of ascending from time to time for the purpose of respiration. The Esquimaux watch with the most indefatigable patience for their appearance, often erecting a little snow-shed to protect them from the cold, and the instant the animal is visible, strike into him a dart or harpoon, of which they have several forms and sizes, and sometimes throw by means of a long line,—a necessary part of their apparatus. Their grandest achievement, however, consists in the attack of the whale; on which occasion a large body of them assemble, armed with a variety of weapons. When struck he instantly plunges into the water; but, being obliged to come

p at short intervals, is always attacked afresh, till, rcome by fatigue and loss of blood, this mighty narch of the deep remains an unresisting prey. e Esquimaux does not hesitate, even singly, to ttack the Polar bear, the fiercest and most terrible f all the Arctic races. In this encounter, however, must be aided by a band of his trusty dogs, hich rush fearlessly on, keep the animal at bay, d assail him on all sides; while the master ad- ces with his spear, and avoiding, with almost ernatural agility, the furious springs of the en- d monster, pierces him with repeated strokes. es, springes, and traps, are also used with chiefly against birds and foxes.

e Esquimaux show little prudence in the man- ent of their supplies. The instant that tidings pire of the capture of a walrus, shouts of exul- n are raised through the village, whose inha- its share the prize in common. On its arrival, s are instantly cut out, every lamp is supplied h oil, the houses are in a blaze; all the pots are

filled with flesh, and the women, while cooking, pick out and devour the most dainty morsels. The feast prepared, one man takes up a large piece, applies it to his mouth, and severs with his teeth as much as that cavity can possibly admit; then hands it to his neighbour, and he to the next, till all is consumed. A new piece is then supplied, and thus the process continues, almost without intermission, till the animal is entirely consumed. To the capacity of an Esquimaux stomach there seems scarcely any limit. Some experiments on the subject made in the Fury, and carefully noted, produced the most surprising results. A youth named Toolooak stands recorded, as having in twenty-one hours received into his stomach ten pounds four ounces of solid food, a gallon and a pint of water, with more than a pint of soup. Captain Lyon pitched against him Kangara, who in nineteen hours finished nine pounds fifteen ounces of solid, and a gallon and a half of fluid. At this rate the most ample store very speedily disappears; one day they are labouring under fever, hemorrhage, and all the maladies incident to repletion; a few days after they are without a morsel to eat.

Considered as to their intellectual condition, the Esquimaux have not the least tincture of what goes by the name of learning; can form no abstract ideas; nor count above ten, the number of their fingers. Yet, amid a life somewhat varied and eventful, many faculties, without any artificial culture, are spontaneously developed. We have seen the skill displayed in the construction of their houses, as well as in pursuing and killing the various tenants of the earth and of the waters, on which

their subsistence depends. Their migratory habits give them a considerable extent of local and geographical knowledge, which they are even in a certain degree able to systematize and delineate. They are also shrewd and intelligent in all the affairs of common life, and possess a considerable talent for humour and mimicry.

In their moral qualities, the Esquimaux, or at least this particular tribe, present much that is worthy of commendation. At the first opening of the intercourse, the most undeviating honesty marked all their conduct,—though this quality, in the course of two winters' communication, was considerably undermined. They were exposed indeed to most severe temptation, by seeing constantly scattered about the ships little planks, pieces of iron, and empty tin pots, which was to them as if the rocks had been strewed with gold and jewels. It also came to their knowledge that, in some of their early exchanges, rich skins had been bartered for beads and other trifles of no real value,—a system against which they exclaimed as absolute robbery. From first to last the virtue now mentioned was practised among themselves in a manner worthy of the golden age. Their dresses, sledges, and all their implements of hunting and fishing, were left exposed inside or outside of the huts, without any instance being known of their having been carried off. Property, without the aid of laws and tribunals, was in the most perfect security. The common right to the products of the chase marks also a singular union, without seeming to relax their diligence in search of food, though it may perhaps contribute to their very thoughtless consumption

of it. The navigators admit that they were received with the most cordial hospitality into the little huts, where the best meat was set before them, and the women vied with each other in the attentions of cooking, drying, and mending their clothes. "The women working and singing, their husbands quietly mending their lines, the children playing before the door, and the pot boiling over the blaze of a cheerful lamp," gave a pleasing picture of savage life. Yet a continued intercourse showed that the Esquimaux inherited their full share of human frailty. Begging we shall pass over, though in many instances persevering and incessant, because it seems to have been called forth almost entirely by their connexion with our countrymen, and by too lavish presents at the first; while their little bursts of envy appear to have flowed from the same source. But the fair Esquimaux are charged with a strong propensity to slander and detraction, which were as busy among them as they sat in circles round the door mending their lines as in the most fashionable drawing-rooms. Their own conduct, meantime, is said to have afforded the most ample scope for censure, especially in regard to connubial fidelity; yet, when it is admitted that these faults were carefully concealed and much outward decorum observed, and that the propensity to calumny often led the natives beyond the strict limits of truth, we doubt whether too implicit reliance may not have been placed on the scandalous chronicle of the frozen regions. The natives certainly do appear to display a peculiar apathy in regard to the sufferings and even the death of neighbours and

ions. Widows, and the aged and infirm, if have not children of their own, experience greatest indifference. In times of plenty, in-, they share in the general abundance of food; during scarcity a very small quantity reaches t, and, receiving no attendance in their sick- they often perish through pure want and ne-. The children are treated with extreme ten-ess; though the practice of adoption, which ails most extensively, and establishes in full between the parties the ties of father and child, actised with regard to boys only, and seem-y in order that they may contribute to support old age of their factitious parents.

he religious ideas of the Esquimaux, though cannot be dignified with any better name superstition, are not much more absurd than popular creed of the ancient Greeks and Ro-s. Their principal deity is Aywillaiyoo, a fe-e immensely tall with only the left eye, wear-a pigtail reaching to her knee, so thick that it scarcely be grasped by both hands. Captain n witnessed a mighty incantation, in which lemak, the chief magician, summoned Aywil-oo to the upper world to utter her oracles. party were assembled in a hut, where light r light was put out, till they were left in total ness. Toolemak then, after loud invocations, essed to descend to the world below to bring up goddess. Soon there arose a low chant of pe-ar sound, imagined to be the voice of Aywillai-

During half an hour, in reply to the loud ams and questions of her votaries, she uttered ious and *mystical responses*; after which the

sound died away, and she was supposed to descend beneath the earth, when Toolemak, with a shout, announced his own return to the upper world. The magician, however, being soon after on board a British ship, was treated with nine glasses of hot water (brandy), under the influence of which he began to act over again his enchantments; when it appeared that, by varying modes of applying the hand or jacket to the mouth, he produced those changeful and mysterious sounds which had passed for the words of Aywillaiyoo. This divinity has for her father a giant with one arm. The Esquimaux pantheon comprises, moreover, Pamiooli, a spirit frequently invoked, and a large bear whose dwelling is in the middle of the ice, and who frequently holds converse with mankind. The natives believe also in a future world, the employments and pleasures of which, according to the usual creed of savage races, are all sensual. The soul descends beneath the earth through successive abodes, the first of which has somewhat of the nature of purgatory; but the good spirits passing through it find the other mansions successively improve, till they reach that of perfect bliss, far beneath, where the sun never sets, and where, by the side of large lakes that never freeze, the deer roam in vast herds, and the seal and walrus always abound in the waters.

We now return to the progress of the expedition. The spring was singularly unfavourable. Captain Lyon attempted to penetrate across Melville Peninsula, but found the route so rugged and so barred by steep chains of mountains, that he was obliged to return in nineteen days without any dis-

y, except of two rapid rivers falling into the
ear Igloolik. Lieutenant Hoppner accompa-
a party of Esquimaux to Cockburn Island,
uld not penetrate to any distance inland. It
he 7th of August before they were able, by
sawing, to reach the open sea; by which
Captain Parry had renounced the hope of
ng any thing important during the short
ant of this season. He formed, however, a
bold plan; which was to bring all the stores
other vessel on board the Fury, and with it
to brave a third winter in the Polar regions,
g that the succeeding summer might be more
ious. But, as he was preparing to carry this
aring project into effect, a report was made
ymptoms of scurvy had broken out on several
e crew, whose physical strength appeared to
nerally impaired by the two hard winters
igh which they had passed. This left no
e; and, in compliance with the general opi-
of his officers, Captain Parry began his voy-
iomewards. The ships were drifted about in
rmy sea covered with ice for twenty-four
; but, being at last favoured with a westerly
e, they crossed the Atlantic, and on the 10th
ctober, 1823, arrived in Brassa Sound, Shet-
. After two successive years thus passed in the
is of the frozen world, whence not the faintest
ur of the expedition had reached Britain, its
bers were viewed almost as men risen from the
. The bells of Lerwick were rung, and other
ordinary demonstrations of joy made on their
al. In a few days they entered the Thames.
wo attempts had thus been made, each to a

certain point successful, but both arrested [illegible] short of the completion of the grand enterp[illegible] The government at home, however, were not wi[illegible] ing to stop short in their spirited career. T[illegible] western extremity of Melville Island, and [illegible] Strait of the Fury and Hecla, appeared to be bo[illegible] so blocked up as to afford little hope; but Prin[illegible] Regent's Inlet, when explored during Capt[illegible] Parry's voyage, had presented, indeed, an icy bar[illegible] rier, but such as had so often given way sudden[illegible] and almost instantaneously, that its existence ear[illegible] in the season could not be considered very alarm[illegible] ing. A passage through this channel would bri[illegible] the ships to the great sea bounding the northern[illegible] coast of America, that had been seen from the[illegible] Strait of the Fury and Hecla, and along which[illegible] Captain Franklin had partly sailed, and by which[illegible] there was the fairest hope of reaching, by the most[illegible] direct route, the waters of the great Pacific. To fol-low up these views, Captain Parry was again fitted out in the Hecla; while, in the accidental absence of Captain Lyon, the Fury was intrusted to Lieutenant, now Captain Hoppner, who had taken an active part in the operations of the last voyage.

The expedition set sail from Northfleet on the 19th May, 1824, and was in Davis' Strait by the middle of June. As the season, however, chanced to be peculiarly rigorous, it was not till the 10th September, that, after repeated repulses and severe straining, they caught a view of the bold and magnificent shores of Lancaster Sound, in which a few solitary icebergs were floating. After this they thought themselves fortunate, when, by pushing their way through many miles of newly-formed

they reached Port Bowen, in time to make it winter-quarters.

he provision made during this winter for the ical well-being of the expedition was still more plete than in the former voyages. The heat of abins was kept up to between 50 and 60 de-; and the seamen wore next the skin a cloth-f fur,—a substance which nature has endowed a warmth far surpassing that of any human . Yet the deep monotony produced by the tly uniform aspect of external nature, instead oming less sensible by habit, was only the painfully felt. As the Arctic theatre had s attraction, Captain Hoppner started the of masquerades, which were, perhaps, still out of keeping with the place and persons; e sailors caught at it with pleasure, and on ccasions all of them acted their part with great and with the strictest decorum. The salu-nd steady influence of the schools was again d, and the whole crew gave their presence, as teachers, scholars, or spectators.

spring was unusually favourable, and, with ratively easy sawing of the ice, the navigators d out to sea on the 19th July, 1825. As it ed most desirable to coast southward along estern shore of the inlet, they stood across the out were soon arrested by a continuous bar-ice, which, however, left an open space on posite side. A fruitless attempt was now to penetrate southward, the channel there found to be equally impeded with ice; hence judged advisable, with the view of seeking a cumbered *passage along* the western shore, *tch to the northward.* An adverse gale, by

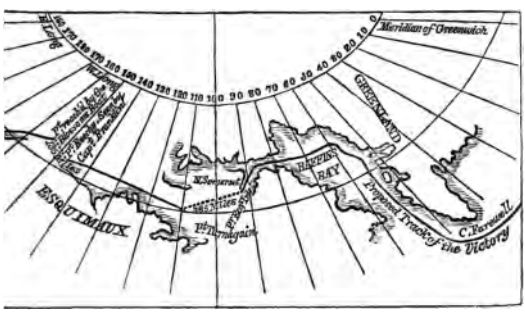
which they were overtaken near the mouth of the inlet, now drove them eastward; but at last they regained their course, and soon came in view of the bold face of the Leopold Isles, the rocks of which rise in horizontal strata of limestone to the height of 600 or 700 feet, resembling a huge and impregnable fortress.

Having touched at Cape Seppings, Captain Parry proceeded down the inlet, where he was no longer arrested by an unbroken barrier of ice. The sea, however, was still heavily incumbered by numerous small fragments, that were tossing about in every direction, and pressed upon the ships so hard that the men wished for a contrary wind; which, coming from the south, would open and disperse the masses collected and driven against them by the north wind. In this anxious and precarious state they worked slowly on till the 1st August, when they reached the latitude of 72° 42′, longitude 91° 50′. Here Captain Parry, from the Hecla, saw the Fury receive a most severe shock by a large floe, which forced her against the grounded ice of the shore; and tidings soon came that she had been very sharply *nipped*, and was admitting water copiously. The commander trusted that this would prove as harmless as the many shocks which this vessel had already endured; that the water made its entry by means of the twisted position into which she had been thrown; and that, when she was relieved from pressure, her leaks would close. But the next accounts were, that she could not be kept clear of water except by the action of four pumps, at which the whole crew, officers and men, were obliged to work. It became evident that the evils under which she laboured could only

discovered and remedied by the operation of *heaving down*, by which her position being reversed, the parts now under water would be exposed to view. This expedient required a harbour, and one was none at hand; however, something was found which resembled one, by connecting with shores and bower-cables the grounded ice to the shore. Four days were then spent in unloading the ship of these ample stores with which she had been provided. The operation was interrupted, too, by violent storm of snow; while the external ice being driven in, demolished, in a great measure, the slender bulwarks by which the vessel was secured. Her holds were filled with water, and every examination proved the damage of her hull to be still more serious than was at first apprehended. No means or prospect appeared, either of securing her in her present position, or of floating her to any known place of safety. In these circumstances, Captain Parry, without expressing any opinion of his own, called for a report from Captain Hoppner and his principal officers, all of whom agreed "that an absolute necessity existed for abandoning the ship." Signals, therefore, were immediately made to the officers and men to carry their clothes and effects on board the Hecla. The stores, from want of room, were necessarily abandoned along with the ship; and barrels of beef, beer, biscuit, and other valuable articles of provision, were left exposed on those savage and desolate shores, where they were unlikely to afford aid or benefit to any human being. After such a disaster, and the end of August being arrived, there was just time enough left to bring the Hecla *home with a fair prospect* of safety,—an event *which was in due time* accomplished.

After this last unsuccessful attempt, government for the present relinquished all intention of sending a new expedition in search of a north-west passage. Another bold and spirited effort, however, by an eminent individual, is now in progress of execution. Captain Ross, naturally disappointed at having failed to discover the strait leading into the Polar Sea which Parry afterwards had the good fortune to enter, formed a new project to complete what the latter had left imperfect,—an achievement which, if successful, will raise him to the first rank among northern navigators. By the powerful agency of steam, he hoped to sail with such rapidity, and so to profit by the occasional openings in the ice, as to penetrate the mazes of the Arctic Sea from Prince Regent's Inlet to Behring's Strait. With only his own resources and the aid of his friends, he equipped and provisioned the steam-vessel Victory, and, in the summer of 1829, guided her into Baffin's Bay. Some particulars of his views and progress have been communicated to us, through the medium of Captain Dall of Leith, by Mr Fearnall of Union Dock, Limehouse, London, who was employed to fit out the Victory. That vessel, it appears, sustained some damage at sea, the head of one of her masts being carried away; but Captain Ross fell in afterwards with the wreck of the Rookwood Greenlandman, and from her materials was enabled to put his vessel again in as full a state of equipment as when she quitted this country. No accounts of his farther progress have yet reached Britain; but it was understood to be his intention to proceed down Prince Regent's Inlet, to the spot where, in 1825, the Fury, as above described, suffered shipwreck. The greater part of her

s having been then abandoned, are probably still
g exposed on those remote and desolate shores,
will, in that case, afford a most important aid
he further prosecution of the voyage. Captain
s hoped to be afterwards able to make his way
g the northern coast of America, the greater
of which has been explored by Franklin, Rich-
on, and Beechey; after which he intended to
Behring's Strait, and, landing in Kamtschatka,
ravel across Siberia to St Petersburgh, leaving
vessel to be conducted home by his nephew, Mr
es Ross. Before leaving this country, the cap-
drew a correct sketch, illustrating his proposed
e, and left it with Mr Fearnall, who has oblig-
y transmitted to us a copy; and the subjoined
aving includes that portion of his undertaking
h relates to the contemplated navigation of the
ic Sea.



ack line represents the proposed track of the Victory, so far as it already passed over by other navigators; while the dotted line e part of this track which is yet unexplored.

CHAPTER VIII.

Recent Voyages towards the North Pole.

Expedition of Captain Phipps (Lord Mulgrave); Progress arrested by the Ice; His Return—Scoresby; Various important Observations made by him; Voyage to the Eastern Coast of Greenland; Discoveries; Returns to England—Clavering's Voyage and Discoveries—Buchan's Expedition—Parry's Fourth Expedition, in which he attempts to reach the Pole; Progress along the Coast of Spitzbergen; The Boats arrive at the Ice; Mode of Travelling; Various Obstacles encountered; Compelled to return—Question as to the Practicability of reaching the Pole.

SINCE the times of Hudson and Fotherby, during the lapse of more than a century, the attempt to reach and to cross the North Pole had not been resumed. The extraordinary zeal, however, which, in the early part of the reign of George III., and under the patronage of that excellent monarch, was kindled in the cause of naval discovery, failed not to extend in every direction. Mr Daines Barrington, distinguished by the union of rank with scientific acquirements, espoused with ardour the belief that, in spite of every obstacle, the pole of the earth might be reached, and various facts thereby brought to light, which at present were hid in mystery. He read to the Royal Society several papers on this subject, which were afterwards reduced into a separate treatise; and that learned body, imbibing

eal the opinions of their eminent associate,
d the Board of Admiralty to fit out an ex-
n which might attempt to realize this inte-
object. The Earl of Sandwich, then at the
f the naval department, entered with ardour
ıe Society's views, and drew up the plan of
edition, which he submitted to his majesty,
l of meeting with his cordial concurrence.
ıtentions of government having now tran-
Captain John Phipps, afterwards Lord Mul-
offered himself for the command, and was
d. Two bomb-vessels, known under the
odd names of the Racehorse and the Car-
vere selected, and stored with an extra pro-
of wine, spirits, and whatever else could con-
to the comfort and health of the crews.
arcass was commanded by Lieutenant Lut-
under whom Horatio Nelson, afterwards so
ıted in the naval annals of Britain, served as
ain. Other equipments were added, not
to customary in nautical expeditions. Those
ly fitted out in England were chiefly set on
mercantile bodies, who were content to com-
eographical discovery with certain views of
ercial advantage. The expeditions projected
the auspices of George III. were the first
had the promotion of science for their sole

Mr Israel Lyons, an eminent astronomical
er, was employed by the Board of Longitude
ply the ships with suitable instruments; they
ent two chronometers, constructed with the
ıt care by Kendall and Arnold, for measuring
stance from the first meridian by difference
e. *Mr Cumming* constructed a seconds-pen-

dulum, fitted to determine the range of that inst ment in high latitudes. Sir Joseph Banks and d'Alembert drew up papers suggesting various entific objects, respecting which observations wo be desirable. The vessels were also supplied v Dr Irving's apparatus for distilling fresh water f the sea,—an invention which, being then rec excited much interest.

Thus equipped, the expedition began to mov the 21st May, 1773; but, being detained by trary winds, could not quit the Nore till the June. The last object seen on land was Wh Abbey; and Captain Phipps then steered into mid-channel of the German Ocean, endeavou to avoid equally Norway and Shetland. In s degrees of latitude the sun set about twenty nutes past nine; the clouds making a beautiful pearance by its reflection from below the hor In latitude 66°, on the 19th June, that lumin even at midnight, was still visible. Captain Ph here undertook to make deeper soundings than ever known to have been before attempted; with a very heavy lead he reached 780 fath The temperature at that depth was 26° Fah heit, while in the air it was 48°. Trial was made of Dr Irving's apparatus, which was sidered completely successful; inasmuch as it found to produce a sufficient quantity of perf good water either for drinking or cooking, wit any inconvenient expense of fuel. This fav able opinion has not been confirmed by nau experience; and the practice, chiefly, we bel from the quantity of fuel required, has never into general use.

On the 27th June the navigators found themselves in the latitude of the southern part of Spitzbergen, without any appearance either of ice or land. On the 29th they saw the shore, and stood close in with it. This coast "appeared to be neither habitable nor accessible; for it was formed by high barren black rocks, without the least mark of vegetation; in many places bare and pointed; in other parts covered with snow, appearing even above the clouds: the valleys between the high cliffs were filled with snow and ice. The prospect would have suggested the idea of perpetual winter, had not the mildness of the weather, the smooth water, bright sunshine, and constant daylight, given a cheerfulness and novelty to the whole of this striking and romantic scene." The mariners enjoyed fine weather in sailing along this bold and lofty coast, and measured the height of several of the mountains, one of which was found to be 4500 feet. On the 30th June they learned, from the master of a Greenland vessel, that the ice lay sixteen leagues off to the westward, and that one Dutch and two English ships had been lost in the course of the season.

In the first days of July, Captain Phipps continued to steer along the coast of Spitzbergen, passing several Greenland ships busily engaged in the fishery. On the 4th he came to Magdalena Hoek, near which he landed, and began observations upon the variation of the compass, which were soon interrupted by a thick fog. Being informed by the Rockingham Greenland ship that the ice was ten leagues off Hakluyt's Headland, he determined to steer for that north-western extremity of Spitzbergen. On *the 5th, as he* was avoiding certain islands

off Danes Gat, something white was seen amid the mist, and a noise was heard as of surf breaking upon the shore. The commander, desiring the Carcass to keep close to him, determined to stand for it, and see what it was. Ere long, amid thick fog, the crews saw an object on their bow, partly black and partly covered with snow, which they at first mistook for islands: it soon, however, proved to be the main body of the ice, on which wind and sea were beating with such violence, that they could not have escaped, except by constant change of tack, and by the utmost alertness of officers and men.

Captain Phipps, finding himself now upon the main northern ice, and being informed that it extended, unbroken, to the north-west, determined to move eastward,—a direction seldom taken by the whale-fishers, and where he hoped to find some opening to them unknown. Continuing to work his way against the wind, between the ice and the land, he passed first Hakluyt's Headland, then Vogel Sang, and on the 7th found himself approaching the bold pinnacle of Cloven Cliff,—a remarkable promontory, named from its resemblance to a cloven hoof, and which, from its perpendicular form, is never covered with snow. Here, as the frozen masses increased in number and size, and fresh ice was forming on the surface of the sea, the officers and men, after full deliberation, concluded it vain to attempt penetrating in this direction. They were farther discouraged, by considering that this was nearly the place in which all previous navigators had been checked in their efforts to reach the Pole. Captain Phipps therefore determined to sta to the westward, cherishing some hopes of a passage

[illegible] direction. He had a dreary run, [illegible] even when very [illegible] could not see each other. A number of the [illegible] notwithstanding an extra allowance of wine [illegible] spirits, became affected with rheumatic colds [illegible] pains in the bones. Having made ten degrees [illegible] westward, without the least appearance of [illegible] opening, the commander determined again to [illegible] east, in the hope that the continuance of [illegible] weather might have dissolved the barriers [illegible] had formerly arrested his progress. On the [illegible] July the navigators were again in the vicinity [illegible] Cliff, and found a good harbour on the [illegible], to which it is attached by a narrow isthmus. [illegible] they obtained abundance of water, and, notwithstanding the fog, made some important celestial observations,—taking the bearings and altitudes [illegible] principal objects on the coast. In endeavouring to push on, however, Captain Phipps was again stopped at nearly the same point as before,—finding the ice locked in with the land, and no passage either to the east or north. He turned once more in despair westward, and kept close to the main ice, pushing into all its openings, some of which, being nearly two leagues long, afforded hopes of a passage; but they proved to be only ice-bays. Near Hakluyt's Headland the ships suffered a severe pressure between a loose fragment of ice and the main body. The commander now found it very unsafe to proceed before an easterly wind, which brought in all the loose pieces, and drove them against the great mass, making it resemble a rocky shore; and it proved both easier and safer to sail against *the wind. Captain Phipps* resolved, in spite *of repeated repulses, to* make another effort to the

eastward; and this time he had some success. Making way through the loose fragments, he came to an open sea, stretching north-east, which inspired the most flattering hopes. The coast was neither so lofty nor exhibited the same dark monotonous aspect as the one he had just passed; the tints being more varied and having more of the natural colour of earth, had caused the early navigators to give to different points the names of Red Beach, Red Hill, and Red Cliff. At length he reached Moffen, an island low and flat, covered with numerous flocks of wild fowl. He continued two days longer to sail through an open sea, meeting only loose floating masses, till, on the 27th, he was stopped by the main body of the ice lying east and west. He then coasted it to the eastward, pushing the ship, by a press of sail, into the icy bays or openings, notwithstanding the large loose pieces by which these were incumbered. On the 29th July the expedition reached a low flat island, larger than Moffen, clothed with moss, and filled with deer and various animals. They found on the shore large fir-trees, some 70 feet long, partly torn up by the roots, partly cut down by the axe, and fashioned into different shapes, but all perfectly entire. Two of the officers engaged in an encounter with a walrus, from which they came off with little honour. The animal being alone, was wounded in the first instance; but he immediately plunged into the deep, and came up with a large body of his fellows, who made a united attack upon the boat, wrested an oar from one of the men, and had nearly overset her, when another boat from the Carcass, under the command of Nelson, came to her relief.

From the point which the discoverers had now

they saw that remote peninsula of Spitz-
hich the Dutch call North-east-land, and
t the range of the Seven Islands. The ice,
began to gather round them, and Captain
e, on mounting the top of a high island,
ie east and north-east one continued frozen
bounded only by the horizon. The ships
w becalmed amid a beautiful and pictur-
ne; the immense field of ice being covered
ow, except that some pools of water were
ith a thin newly-formed crust. The ma-
tempted in vain to make any sensible pro-
tward; the ice closed fast, and no opening
where seen, except for about a mile and a
nd the ships. The pilots, who had never
roceeded so far, were seriously alarmed lest
uld be beset. Nor were their fears ground-
next day the ships were frozen in faster
r, not having room to turn, while the pass-
which they had entered from the westward
irely closed up behind them. The adven-
ad then no room for farther consideration,
to extricate themselves and return home.
gan sawing through deep ice, where it was
es twelve feet thick; and these laborious
nly enabled them to move three hundred
stward; while the mass within which they
closed was moving eastward, carrying them
ith it. In these circumstances, Captain
conceived no time was to be lost in putting
boats and dragging them over the ice, with
of reaching the Dutch ships, which usually
bout this time to direct their course home.
On the 7th August the boats were got for-

ward two miles; and the commander, on his returning to the ships, finding the ice round them a little more open, caused all sails to be set, by which means they were made to move forward, though slowly, and still counteracted by the drift-ice. Being favoured, however, by moist and foggy weather, their progress became more rapid. They came up with the boats, and took them in; and on the 16th, having a brisk gale from the north-east, they forced the ships through all obstacles, though not without sustaining many heavy strokes, and breaking the shank of their best bower-anchor; but about noon they found themselves in the open sea.

Being thus delivered from their greatest fear, they repaired to the harbour of Smeerenberg for rest and refreshment. In its vicinity they admired a very lofty iceberg, which presented to the sea a perpendicular face nearly 300 feet high, of a fine light-green colour, and down which a cascade was pouring. "The black mountains, white snow, and beautiful colour of the ice, made a very romantic and uncommon picture." A large fragment, which had fallen into the sea, floated out, and grounded in twenty-four fathoms: it stood fifty feet high, and was of the same beautiful colour as the iceberg.

Captain Phipps, before quitting the Polar world, made some general remarks on the phenomena which it presents. He observed always a great swell near the edge of the ice; but, whenever he was enclosed among its loose fragments, the sea was perfectly smooth. According to Hudson, the green waters were free from ice, which was found only in the blue; but no ground was now seen for this distinction, nor does there probably exist any. Marten de-

cribed the sun at midnight as resembling the moon in appearance; but our observers could see no difference, except what arose from its being lower in the heavens.

On the 19th August Captain Phipps weighed for England, and on the 24th was somewhat surprised by the sight of Jupiter, no star having for a long time been visible amid the perpetual light of the northern sky. After passing Shetland on the 7th September, he met with a series of very heavy gales, during which he lost three boats, and was obliged to throw two guns overboard. However, having reached Orfordness on the 24th, he proceeded without farther difficulty to the Nore.

The result of this voyage, which was considered as having been made under fair and even favourable circumstances, tended in some degree to chill the hopes of penetrating nearer to the great northern boundaries of the earth. It seemed that, from the eightieth degree, ice in one unbroken field stretched to the Pole, and that its margin presented an impenetrable wall to the navigators of the Greenland Sea. The hope, however, of attaining the desired object by sailing northwards from the Pacific, between America and Asia, led to the equipment of Captain Cook for his third voyage. After that attempt also had failed, disappointment was followed, as usual, by a suspension of interest; and the northern realms had sunk almost into oblivion, till the revival of the recent spirit of discovery. Public attention was first called to them by Mr Scoresby, who, bred as a practical whale-fisher, had been nursed as it were amid the tempests and snows of the North, and had observed *their aspects with* an intelligent and scien-

tific eye, very unusual among those who pursue rough and bustling a trade.

In 1806 this gentleman made the nearest proach to the Pole that has ever yet been f authenticated; for the statements of the Dutch other navigators, who boast of having gone n nearer, are subject to great doubt as to their o vations of latitude. Mr Scoresby was then as mate under his father, who commanded a land ship. They at first proceeded by Jan into the Western Bight, where the seal-fisher ried on; but afterwards they changed the pose, and came round to the Whale-bight. found the waters incumbered, even in a lo tude, by much broken ice, through which the their way not without some danger. The reached an open sea, so extensive that its te tion could not be discovered, and it was beli extend four or five hundred square league proceeding northward, however, they soon a at a very close continuous field, consisting o ice compacted by drifting fragments. They p their way through it by the most laborious tions,—towing, boring, warping, and *mill-d* —a process which consists in the use of a battering-ram. Having thus opened a path a very extended barrier, they came, almost b hope, to an open sea, which appeared near bounded, having only the ice on the south a land on the east. Their object was to catch w and, following their primary purpose, they a west-north-west direction. Swiftly crossi short meridians of this parallel they soon from the 10th degree of east to the 8th deg

st longitude. Their latitude was 79° 35′, and e sea was still open on every side. As whales, wever, were wanting, they changed their tack, d ran east-north-east about 300 miles, till they me to the 19th degree of east longitude; and here y found themselves in lat. 81° 30′, being a de- higher than Phipps had reached, and only about geographical miles from the Pole. Had disco- y been their object, they had now a brilliant op- tunity; and neither master nor mate would have en insensible to the glory of acquiring enlarged owledge of these utmost boundaries of the earth. t they had been fitted out by a mercantile body ring home a cargo of whale-oil, and this solid pose could not be postponed to the most brilliant ulations of science. The sea lay vast and open fore them; but as it contained no whales, they ered their course backwards towards Hakluyt's adland, in the vicinity of which they caught enty-four of those valuable animals, from which re extracted 216 tuns of oil.

Mr Scoresby indulged his curiosity by landing some of the insular tracts that fill the depths the Polar Sea, and clambering up the lofty steeps hich usually rise from their shores. Charles' land, or Fair Foreland, at the north-west of Spitz- rgen, was the first Arctic ground on which he aded; but the fog soon spread so thick that he uld remark little except the immense multitude birds that clustered around the rocks and pre- ices. Afterwards, in 1818, he landed near Mitre ape, and undertook to reach the summit of that gularly-insulated cliff of which it consists. Much the ascent was over fragments of rock, so loose

that the foot in walking slid back every step, and the party could make no progress but by the very laborious operations of running and leaping. The continuance of frost appears to cause this extraordinary decomposition of the rocky substance. At one place they found a ridge so steep that Mr Scoresby could seat himself across it as on the back of a horse. They reached the summit, estimated at 3000 feet high, about midnight, when the sun still shone bright on its snow-capped pinnacle, causing such a rapid dissolution, that streams of water were flowing around them. It is considered remarkable, that in this frozen region, where even at a moderate elevation the mean annual temperature must be below the freezing-point, the highest summits should put off their winter-covering of snow, in which so many peaks, both of the temperate and of the torrid zones, are perpetually enveloped. It would appear, however, that during the short interval of continuous summer-day the rays of the sun, beating perpetually on the mountain-tops, which are raised above the fogs that surround the watery surface, produce a degree of heat much greater than corresponds with the latitude. Hence the general average of the year, and especially the part which composes the long Arctic night, must be marked by a fearful depression.

The view from this summit is described by Mr Scoresby as equally grand, extensive, and beautiful. On the east side were two finely-sheltered bays; while the sea, unruffled by a single breeze, formed an immense expanse to the west. The icebergs reared their fantastic forms almost on a level with the summits of the mountains, whose cavities they

d, while the sun illumined, but could not dis-
e them. The valleys were enamelled with beds
now and ice, one of which extended beyond
ch of the eye. In the interior, mountains rose
nd mountains, till they melted into distance.
cloudless canopy above, and the position of the
y themselves, on the pinnacle of a rock, sur-
ded by tremendous precipices, conspired to ren-
their situation equally singular and sublime. If
agment was detached, either spontaneously or
design, it bounded from rock to rock, raising
ke at every blow, and setting numerous other
ments in motion, till, amid showers of stones, it
hed the bottom of the mountain. The descent
the party was more difficult and perilous than
ascent. The stones sunk beneath their steps, and
d down the mountain, and they were obliged
walk abreast, otherwise the foremost might have
n overwhelmed under the masses which those
hind him dislodged. Finally, to the astonishment
d alarm of the sailors beneath, Mr Scoresby and
s companions, in a part of their descent, slid down
n almost perpendicular wall of ice, and arrived in
fety at the ships. The beach was found nearly
vered with the nests of terns, ducks, and other
nants of the Arctic air, in some of which there
were young, over whom the parents kept watch,
nd, by loud cries and vehement gestures, sought
to defend them against the gulls and other preda-
tory tribes hovering around. Several sailors who
had robbed these nests were followed to a consider-
able distance with loud and violent screams.

Mr Scoresby, also, in 1817, landed, and made an excursion on *Jan Mayen's Land*. The most striking

feature was the mountain Beerenberg, which rears its head 6870 feet above the sea; and, being seen to the distance of thirty or forty leagues, proves a conspicuous landmark to the mariner. The first objects that attracted the eye were three magnificent icebergs, which rose to a very great height, stretching from the base of Beerenberg to the water's edge. Their usual greenish-gray colour, diversified by snow-white patches resembling foam, and with black points of rock jutting out from the surface, gave them exactly the appearance of immense cascades, which in falling had been fixed by the power of frost. A party ascended a mountain which composed only the base of Beerenberg, yet was itself 1500 feet high. They were not long in discovering that the materials composing this eminence were entirely volcanic. They trode only upon ashes, slag, baked clay, and scoriæ; and, whenever these substances rolled under their feet, the ground beneath made a sound like that of empty metallic vessels or vaulted caverns. On the summit they discovered a spacious crater, about 600 feet deep and 700 yards in diameter, the bottom of which was filled with alluvial matter, and which, being surrounded by rugged walls of red clay half-baked, had the appearance of a spacious castle. A spring of water penetrated its side by a subterranean cavern, and disappeared in the sand. No attempt was made to ascend Beerenberg, which towered in awful grandeur, white with snow, above the region of the clouds; but at its feet was seen another crater surrounded by an immense accumulation of castellated lava. A large mass of iron was found, which had been smelted by the interior fires. The volcano

at this time entirely silent; but Mr Scoresext year saw smoke rising from it to a great ht; and the same phenomenon had, in 1818, discerned by Captain Gilyott of the Richard, even remarked a shining redness like the emof a large fire.

he most important discoveries, however, effectly Mr Scoresby, took place in 1822, when he d in the ship Baffin, of 321 tons and 50 men, he whale-fishery. He departed from Liverm the 27th March, and on the 28th passed the of Cantyre; but immediately after encountered ent gale, which, blowing on this dangerous obliged him to take shelter for ten days in Ryan. This interval of leisure was improved, ing to his laudable custom, for purposes of fic experiment; and in this instance he had ularly in view the improvement of the chroers used in navigation. On the 8th April he set sail; passed on the 10th the dangerous nd islands of Skerivore, west of Tiree; and 11th, at noon, saw the Island of St Kilda. e 14th, when only in lat. 64° 30′ the cry ised that ice was in sight, and the mariere soon involved in its streams, accompawith the usual dense and deep obscurity of fogs. On the morrow they were stopped by ensive patch, which they spent several days ily attempting to double; but at length, setll sail on the ship, they made their way h it in the course of an hour. They now led northward with a fair wind, observing illiant phenomenon of the Aurora Borealis, *eing the ocean covered* with large quantities

of drift-wood. On the 25th April, in lat. 79° they found themselves in the region of continued day, and being now in "a fishing latitude," took out their boats, coiled their lines, and prepared the harpoons, lances, and other apparatus. On the 27th they reached the 80th degree, and were within ten miles of Hakluyt's Headland without having yet felt any frost. Continuing to approach the Pole, Mr Scoresby reached, on the 28th, the main northern ice at the same point where it had been found by Lord Mulgrave. He proposed to run along it to the eastward, in hopes of reaching a good fishing-station, but the state of the wind compelled him to turn in the opposite direction. On the 6th May the first whale was taken. On the 9th a heavy gale from the north-east produced symptoms of cold, similar to those felt in the extremity of an Arctic winter; the skin adhering to metallic substances; water spilt within three feet of the cabin-fire converted into ice; even a mug of good beer nearly frozen at the very foot of the stove. Mr Scoreby's situation was painful; the sea was covered with such a dense stratum of frost-rime, reaching to the height of fifty feet, that nothing could be seen from the deck; and he could not guide the ship without mounting the topmast, where the view was clear, but the temperature was from 3 to 8 degrees below zero, which the gale rendered most intensely piercing. Soon after, being involved in floating ice, he had a most difficult course to steer, though he observes that, to a true navigator, the high exertion of nautical skill required to perform the continual evolutions and changes of course necessary amid floating ice is productive of peculiar enjoyment; and accord-

ıe extricated himself without any material
e.

Scoresby finding no whales in his present
determined upon a change. For some time
ıese high latitudes, probably in consequence
ng been so long *fished*, had become nearly
uctive, and the only good cargoes were ob-
›y penetrating through the ice to the eastern
›f Greenland. A trip in this quarter coin-
rith another object in which Mr Scoresby
ıliar interest. The whole range of this coast
ıolutely unknown, unless at a few points,
he Dutch had approached and named; and
d a continuous line with that on which the
of Old Greenland, the subject of much in-
ıd controversy, were supposed to have been

is course Mr Scoresby was amused by strik-
ances of the refractive power of the Polar
ere, when acting upon ice and other objects
d through its medium. The rugged surface
l the forms of castles, obelisks, and spires,
ere and there were sometimes so linked to-
ıs to present the semblance of an extensive
wded city. At other times it resembled a
naked trees; and Fancy scarcely required
t to identify its varieties with the produc-
human art;—sculptured colossal forms, por-
rich and regular architecture,—even with
pes of lions, bears, horses, and other animals.
were seen inverted, and suspended high in
, and their hulls often so magnified as to
le huge edifices. Objects really beneath the
were raised into view in a most extraordi-

nary manner. It seems positively ascertained, that points in the coast of Greenland, not above 3000 or 4000 feet high, were seen at the distance of 100 miles. The extensive evaporation of the melting ices, with the unequal condensation produced by streams of cold air, are considered by Mr Scoresby as the chief sources of this extraordinary refraction.

It was on the 8th of June that, in 74° 6′ north latitude, a vast range of land was discovered, extending from north to south about ninety miles, and of which the most northerly point was concluded to be that named on the charts Gale Hamke Land, while the most southerly appeared to be Hudson's Hold-with-Hope. Mr Scoresby's ambition, however, to mount some of its bold crags, which no European foot had ever trode, was defeated by the interposition of an impassable barrier of ice; and a similar one having closed in behind him, he was obliged to sail back and forward for several days through a narrow channel. During this interval he had a good opportunity of taking the bearings and directions of this great line of coast. The latitude, as given in the maps, was tolerably correct, and was indeed his only guide in tracing the positions; for the longitude, after the most careful observation, was found to differ seven degrees from the best charts, and ten degrees from those usually supplied to the whale-fishers. This coast was generally mountainous, rugged, and barren, bearing much resemblance to that of Spitzbergen, though less covered with snow. It could not be fully ascertained, whether some low ground might not be interposed between the sea and the mountains; but their aspect, and the general analogy of the Arctic

ures, suggested the idea that these mighty cliffs
pped perpendicularly into the waves.
Mr Scoresby followed the usual system of nam-
ng the prominent objects either after persons emi-
ent in science or after his private friends. The
wo principal bays or inlets were designated from
Captain Kater and Sir Walter Scott; while two
acious forelands or projecting peninsulas, the for-
er supposed to be an island, were assigned to Dr
Wollaston and Sir Everard Home. Other bays
nd capes were bestowed upon Sir Thomas Bris-
ane, Dr Brinkley, Colonel Beaufoy, Dr Holland,
r Herschel, and some of the author's personal
ends. Afterwards, obtaining the view of some
ller bays to the south, he was enabled thus to
pliment Sir George Mackenzie, Sir Charles
secke, Baron Humboldt, M. de la Place, and
Freycinet.
[r Scoresby now made a movement eastward in
:h of whales, of which he found no traces in
vicinity of land. This change of purpose was
ıded with a very distressing circumstance. Wil-
Carr, one of his most expert harpooners, and
e active fellow, had struck a whale, which flew
vith such rapidity that the line was jerked
of its place, and threatened the sinking of the
. Having snatched the rope to replace it in
proper position, he was caught by a sudden
, instantly dragged overboard, and plunged un-
water to rise no more. The boat having at once
:ed itself, the sailors looked round and asked,
here is Carr?" One man only had seen him
ppear, but so instantaneously, that he had
:ly *missed the object* without being able to say

how. The distress and agitation of the survivors afforded the stricken whale a respite, of which he availed himself to effect his escape. Mr Scoresby, deeply distressed, took the opportunity next Lord's day of calling the attention of his crew to their own most important interests, and to their preparation for such a catastrophe as had befallen their comrade; on which occasion all the sailors seemed much affected.

About a month was passed in searching for whales, at a little distance from the shore, and several of these animals, as well as narwals, were taken; but as they ceased to appear, it was resolved again to stand in for the land. On the 19th July the navigators came in view of a range of coast, of a very bold and peculiar character, extending about forty miles. It presented a mountain-chain from three to four thousand feet high, rising at once from the beach in precipitous cliffs, which terminated in numberless peaks, cones, and pyramids, with sharp and rugged rocks every where jutting out from their sides. From one of the mountains rose six or seven tall parallel chimneys above each other; one of which, crowned with two vertical towers, was called Church Mount. This coast received the name of Liverpool; while to the mountains was given that of Roscoe. The range of shore terminated at Cape Hodgson; beyond which, however, steering south-west, they descried three other promontories; to these were successively given the names of Cape Lister, Cape Swainson, and Cape Tobin. Here Mr Scoresby took, for the first time, the opportunity of landing; when he found the beach much lower than that farther to the north,

nd consisting in a great measure of loose stony hills. After some examination, he came, near Cape Swainson, to an enclosure formed by parallel walls, similar to those which the Esquimaux construct for their summer huts, and within which were hollow structures like bee-hives, such as they use for stores. A narrow scrutiny showed remains of fuel, charred drift-wood, half-burnt moss and ashes; which last was considered as indicating the place to have been occupied at no distant period. There were also found instruments of wood and bone, one of them tipped with iron.

Resuming their course at sea, and still holding outh-westward, there now appeared a spacious inlet, to which, in looking upwards, no termination ould be seen. Mr Scoresby, while penetrating his inlet, discovered another sound branching to he northward, behind the Liverpool coast, and upposed to form it into an island. The opposite hore of this entrance was named Jameson's Land, rom the eminent professor of natural history at Edinburgh. Beyond Cape Hooker, the southern oint of Jameson's Land, another large inlet stretchd towards the north, to which was given the name f Captain Basil Hall. It had every appearance of onverting Jameson's Land also into an island. he coast to the westward of this last approach reeived the name of Milne's Land. Between Cape eslie, the northern point of Milne's Land, and ape Stevenson, on the opposite shore, the original pening continued to stretch into the interior, without any appearance of a termination. Combining his observation with the position of Jacob's Bight n *the same latitude on the* western coast, which

Sir Charles Giesecke traced to the height of 150 miles, where it opened into a sort of inland sea, there appeared a strong presumption that, instead of the continuous mass of land which our maps represent, Greenland composes only an immense archipelago of islands. To this great inlet, the entrance of which was bounded by Cape Tobin on the north, and Cape Brewster on the south, Mr Scoresby gave the name of his father, though posterity will probably be apt to associate with himself the name of "Scoresby's Sound."

These coasts, especially that of Jameson's Land, were found richer in plants and verdure than any others seen by our navigator within the Arctic circle, and almost meriting the appellation of Greenland. The grass rose in one place to a foot in height, and there were meadows of several acres which appeared nearly equal to any in England. Nowhere could a human being be discovered; but every where there were traces of recent and even frequent inhabitation. At the foot of a range of cliffs, named after Mr Neill, secretary to the Wernerian Society, were several hamlets of some extent. The huts appear to have been winter-abodes, not constructed of snow-slabs like those of the Esquimaux of Hudson's Bay, but resembling those of the Greenlanders, dug deep in the ground, entered by a long winding passage or funnel, and roofed with a wooden frame overlaid with moss and earth. The mansion had thus the appearance of a slight hillock, and seemed quite an underground habitation. Near the hamlets were excavations in the earth, serving as graves, where implements of hunting, found along with the bones of the deceased,

proved the prevalence here of the general belief of savage nature, that the employments of man in the future life will exactly resemble those of the present. There was one wooden coffin, which the author was willing to believe might mark a remnant of European colonization. It was thought singular that the dwellers on this coast should have been recently so numerous, and yet not one of them left; but probably these were winter-quarters, while during the summer the natives had repaired into the interior, where they might find those land-animals which retreat to the southward during the more rigorous season.

On emerging from this large sound and proceeding southward, Mr Scoresby discovered another continuous range of coast, which afforded to him a bay to be named after Mr Wallace, and three capes after Messrs Russell, Pillans, and Graham, all eminent professors in the University of Edinburgh; also an island named after Captain Manby; another after Dr Henry, and a cape after Mr Dalton, two distinguished chemists at Manchester; besides another cape after Dr John Barclay of Edinburgh.

Disappointed as to any appearance of whales on this coast, Mr Scoresby again steered out to sea and to the northward. Icebergs surrounded him, amounting at one place to the number of five hundred. This course brought him in a few days within sight of lands stretching more northerly than those recently surveyed, and connecting them with the others which he had first discovered. There appeared two large territories, seemingly insular, to which were given the names of Canning and Traill. Between them was a most spacious

inlet, honoured with the name of Sir Humphrey Davy. On penetrating this opening there arose several points of land, probably islands, which afforded a range of mountains, made commemorative of Werner, the celebrated geologist; a smaller ridge was assigned to Dr Fleming; after which were appropriated Capes Biot, Buache, and Carnegie. He landed on Traill Island, and with incredible toil clambered to the top of a hill, where he hoped to have found a small plain containing a few specimens of Arctic vegetation; but this summit was steeper than the most narrowly-pitched roof of a house, and, had not the opposite side been a little smoother, he would have found much difficulty in sliding down. Beyond Traill Island, and separated from it by a considerable inlet named after Lord Mountnorris, was another coast; the pointed extremity of which received the name of Captain Parry. This promontory being at no great distance from Cape Freycinet, which had been seen in the first survey, there was thus completed the observation of a range of four hundred miles of coast, formerly known only by the most imperfect rumours and notices, and which might therefore be strictly considered as a new discovery.

Mr Scoresby afterwards approached more closely to Canning Island, and penetrated a sound between it and the main, connected apparently with Hurry's Inlet, and where he gave names to Capes Allan, Krusenstern, and Buch.

Our navigator would have been happy to examine more of the Greenland coast, having on one occasion had a fair prospect of being able to run southward to Cape Farewell; but the ship was not his

ı, and his destination being to catch whales, ıpelled him to turn in another direction. He met hitherto with much disappointment in this suit; and, the season being far advanced, he was rehensive of being obliged to return with a de- ınt cargo. But on the 15th of August nume- s whales appeared round the ship: of these five e struck and three taken, which at once ren- ɔd the ship *full-fished*, and placed him among successful adventurers of the year. He could ırn, therefore, with satisfactory feelings; and pleasure of the voyage homeward was only al- ɔd by the occurrence of a violent storm off vis, in which Sam Chambers, one of the most ɛmed of his sailors, was washed overboard.

To these discoveries of Mr Scoresby some addi- ıs were made next year by Captain Clavering, o was employed by the Admiralty to convey ɔtain Sabine to different stations in the Arctic , for the purpose of making observations on the ıparative length of the pendulum as affected by principle of attraction.

Captain Clavering sailed on the 3d May, 1823, on the 2d June arrived at Hammerfest, where anded Captain Sabine with the tents and in- ıments. The observations being completed, he ɔd on the 23d, reached the northern coast of ɨzbergen, and fixed on a small island between ɣel Sang and Cloven Cliff for farther scientific ɾations. While Captain Sabine was employed n the island, he endeavoured to push into a ·e northern latitude; but, after great exertion, ɔould not reach beyond 80° 20′. Accompanied the former, *whom he* had now rejoined, and

whose observations were completed, he left th coast on the 22d July, and steered for the easte shores of Greenland, of which he came in view o the 5th August. The scene appeared the most d solate he had ever beheld. The mountains rose the height of several thousand feet, without a vesti of vegetation, or the appearance of any living cr ture on the earth or in the air. Even the dre waste of Spitzbergen appeared a paradise to t He landed Captain Sabine and the scientific paratus on two islands detached from the eas shore of the continent, which he called the Pen lum Islands, and of which the outermost point marked by a bold headland rising to the height 3000 feet.

While Captain Sabine was employed in his co of observations, Captain Clavering surveyed a of the coast which lay to the northward, being first which Mr Scoresby saw. It was at some tance, with an icy barrier interposed; but found indented with deep and spacious bays, pected even to penetrate so far as to conver this range of coast into a cluster of large isl The inlet, which the former navigator had assi to Sir Walter Scott, was believed by Claverin be that discovered by the Dutch mariner Hamkes; but we have not ventured to rer this last from the more northerly position fixed Mr Scoresby. Other openings which occurre proceeding towards the north were named by captain, Foster's Bay, Ardincaple and Rosen Inlets; and he saw bold and high land still stre ing in this direction as far as the seventy-sixth gree of latitude.

n regard to the natives Captain Clavering was
e fortunate than his predecessor, who saw only
ir deserted habitations. On landing at a point
the southern coast of Sir Walter Scott's In-
, he received intelligence of Esquimaux having
n seen at the distance of a mile, and hastened
ther with one of his officers. The natives on
ing them immediately ran to the top of some
ks; but the English advanced, made friendly
s, deposited a mirror and a pair of worsted
tens at the foot of the precipice, and then re-
d. The Esquimaux came down, took these ar-
es, and carried them away to the place of their
eat; but they soon allowed the strangers to ap-
ach and accost them, though their hands when
ten were found to tremble violently. By de-
s confidence was established, and they followed
English to their own tent, five feet high and
ve in circumference, composed of wood and
ebone. Their aspect and conformations, their
and implements, exactly corresponded to those
ved by Captains Parry and Lyon in Hudson's

A child, after being diligently cleared of its
coating of dirt and oil, was found to have a
y copper-coloured skin. The natives were as-
ied and alarmed beyond measure by the effect
e-arms. A seal being shot, one of them was
to fetch it. He examined it all over till he
. the hole made by the ball, when, thrusting
iger into it, he set up a shout of astonishment,
ng and capering in the most extravagant man-

Another was prevailed upon to fire a pistol;
istantly, on hearing the report, started and ran
into *the tent.*

The observations were not completed till the beginning of September, when the season was too late to allow Captain Clavering to gratify his wish of making a run to the northward. Nor did he extricate himself from the ice without some severe shocks; yet, after spending six weeks at Drontheim, he entered the Thames in the middle of December.

We have departed somewhat from the regular order of time, for the purpose of giving in a connected view the observations and discoveries of Mr Scoresby, and the additions to them by Captain Clavering. Meantime, however, another grand attempt had been made to explore the depths of the Polar Sea. Combined with Captain Ross' mission in search of the north-west passage, the Dorothea and Trent were placed under the command of Captain Buchan, with the view of pushing direct to the Pole, and endeavouring not only to reach that grand boundary, but to pass across it to India,—a voyage which, from the relative position of these two parts of the globe, would have been much shorter by this route than by any other. It was contended by the supporters of this undertaking that the failures of Hudson, Fotherby, and Phipps had occurred in consequence of their being entangled in the winding shores and bays of the northern coast of Spitzbergen; that the production of ice took place chiefly in the neighbourhood of land; and that, by keeping decidedly in the middle of the ocean-channel, navigators would, instead of a boundless and unbroken field, find an open and navigable sea.

Captain Buchan, having set out early in the sea-

of 1818, came on the 27th May in view of erie Island. Without pausing there, he stretch- along the western coast of Spitzbergen to the htieth degree of north latitude, where he en- ntered a severe storm, which separated his ves- s for a time, and obliged them to seek shelter in agdalena Bay. On the 10th June he met seve- l Greenland ships, and was informed by the mas- rs that, in the great sea to the westward, to hich he had looked with the greatest hope, the e was completely impenetrable. He determined, erefore, to turn Hakluyt's Headland, and pro- ed north-eastward in the track ultimately fol- wed by Lord Mulgrave. On his way he was as completely beset, being hemmed in by fields ice ten or twelve miles in circumference, amid hich icebergs rose in the rudest and most fantas- forms, appearing like specks in a boundless ain of alabaster. On the 26th June the naviga- rs reached Fair Haven, situated between Vogel ng and Cloven Cliff. Being detained here for ne time, they found numerous herds of the wal- s and the deer, and killed, after hard combats, veral of the former, one weighing a ton; while the latter they despatched with ease from forty- e to fifty, the average weight of which was 0 lbs. Being at length enabled to move forward, y reached the latitude of 80° 32′, where they re beset for three weeks. On the 29th July, Dorothea was again brought into open water; on the 30th she was exposed to a tremendous e, which blew her upon the main body of the with a force that she was unable to resist. this awful *situation, the* crew having no time

to deliberate, determined to turn the helm so that the wind might drive the ship's head into the ice, where, it was possible, they might find a secure lodgement even amid this fearful tempest. The helm was so placed, and a solemn awe impressed the mariners during the few moments which were to decide whether the Dorothea was to be safely moored, or to be dashed to pieces. She struck with a terrible shock, which was repeated frequently in the course of half an hour. By that time she had forced her way more than twice her own length into the body of the ice, where she remained immovably fixed. By and by the gale moderated, and she was again brought into an open sea; but she had been so shattered, and the water entered by such numerous leaks, that scarcely any effort could preserve her from sinking. Next morning, however, being fine, the crew with much difficulty worked her round to the harbour of Smeerenberg. There she was so far refitted as to be able in the beginning of September to take the sea, and on the 10th October came in view of the coast of England, near Flamborough Head.

No farther attempt was made to reach the Pole in *ships;* but, after a certain interval, a plan was devised to push towards that grand boundary in vehicles wafted over the frozen surface of the ocean. It was Mr Scoresby by whom this scheme was first suggested. In a memoir read to the Wernerian Society, he endeavoured to prove that such a journey was neither so visionary nor so very perilous as it might appear to those who were unacquainted with the Arctic regions. The Polar Sea in some meridians would, he doubted not, present one continued

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of the Admiralty, the plan of an expedition over the Polar ice. Their Lordships, having referred this proposal to the council and committee of the Royal Society and received a favourable report as to the advantages which science might derive from such a journey, applied themselves with their usual alacrity to supply the captain with every thing which could assist him in this bold undertaking. The Hecla was employed to carry him as far as a ship could go, and with her were sent two boats, to be dragged or navigated, according to circumstances, along the unknown and desolate expanse between Spitzbergen and the Pole. These boats, being built of successive thin planks of ash, fir, and oak, with sheets of water-proof canvass and stout felt interposed, united the greatest possible degree of strength and elasticity. The interior was made capacious and flat-floored, somewhat as in troop-boats, and a runner attached to each side of the keel fitted them to be drawn along the ice like a sledge. Wheels were also taken on board, in case their use should be found practicable.

The adventurers started early. On the 27th March, 1827, they were towed down the river by the Comet steam-boat, and on the 4th April weighed from the Nore. On the 19th they entered the fine harbour of Hammerfest in Norway, where they remained two or three weeks, and took on board eight rein-deer, with a quantity of picked moss for their provender. Quitting Norway on the 11th May, they soon found themselves among the ice, and met a number of whale-ships. On the 13th they were in view of Hakluyt's Headland, when the captain endeavoured to push his way to the

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On the 24th only one solitary *rotge* was
; and it might be presumed that, from thence
Pole, all would be a mighty scene of silence
litude. The adventurers pushed on without
ion beyond the realms of life; but now, after
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owed them to be four miles south of the po-
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arried them fourteen miles backward. This
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, though only twenty miles distant, was now
l the limits of hope. To ask the men to un-
such unparalleled toil and hardship, with the
r of their means being exhausted, while an
ble power undid what their most strenuous
labours achieved, was contrary to the views
ir considerate commander. In short, he de-
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had given the name of Treurenberg. It was now the 20th of June, and the best of the season had been spent in beating backwards and forwards on these ice-bound shores; he therefore resolved, without farther delay, to prosecute the main object of his enterprise. Scarcely hoping to reach the Pole, he determined, at all events, to push as far north as possible. He took with him seventy-one days' provision, consisting of pemmican (beef dried and pounded), biscuit, cocoa, and rum. Spirits of wine, as the most portable and concentrated fuel, was alone used for that purpose. There were provided changes of warm clothing, thick fur-dresses for sleeping in, and strong Esquimaux boots. The rein-deer and also the wheels were given up at once as altogether useless in the present rugged state of the ice; but four sledges, constructed out of the Esquimaux snow-shoes, proved very convenient for dragging along the baggage.

On the 22d June the expeditionary party quitted the ship, and betook themselves to the boats amid the cheers of their associates. Although all the shores were still frozen, they had an open sea, calm and smooth as a mirror, through which they sailed slowly but agreeably with their loaded vessels. After proceeding thus for about eighty miles, they reached, not, as they had hoped, the main body of the ice, but a surface intermediate between ice and water. This could neither be walked nor sailed over, but was to be passed by the two methods alternately. However, on such a strange and perilous plain, it behoved them to land, in order to commence their laborious and monotonous journey towards the Pole.

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On the 24th only one solitary *rotge* was and it might be presumed that, from thence Pole, all would be a mighty scene of silence itude. The adventurers pushed on without ion beyond the realms of life; but now, after ays of bad travelling, when their reckoning iem ten or eleven miles of progress, observaowed them to be four miles south of the powhich they occupied on the evening of the The drifting of the snow-fields had in that rried them fourteen miles backward. This much; and to reach even the eighty-third , though only twenty miles distant, was now l the limits of hope. To ask the men to unuch unparalleled toil and hardship, with the of their means being exhausted, while an le power undid what their most strenuous abours achieved, was contrary to the views ir considerate commander. In short, he deed that they should take a day of rest, and et out on their return. This resolution was nicated to the crew, who, though deeply disted at having achieved so little, acquiesced in cessity, and consoled themselves with the idea ing gone farther north than any previous exn of which there was a well-authenticated

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to deliberate, determined to turn the helm so that the wind might drive the ship's head into the ice, where, it was possible, they might find a secure lodgement even amid this fearful tempest. The helm was so placed, and a solemn awe impressed the mariners during the few moments which were to decide whether the Dorothea was to be safely moored, or to be dashed to pieces. She struck with a terrible shock, which was repeated frequently in the course of half an hour. By that time she had forced her way more than twice her own length into the body of the ice, where she remained immovably fixed. By and by the gale moderated, and she was again brought into an open sea; but she had been so shattered, and the water entered by such numerous leaks, that scarcely any effort could preserve her from sinking. Next morning, however, being fine, the crew with much difficulty worked her round to the harbour of Smeerenberg. There she was so far refitted as to be able in the beginning of September to take the sea, and on the 10th October came in view of the coast of England, near Flamborough Head.

No farther attempt was made to reach the Pole in *ships;* but, after a certain interval, a plan was devised to push towards that grand boundary in vehicles wafted over the frozen surface of the ocean. It was Mr Scoresby by whom this scheme was first suggested. In a memoir read to the Wernerian Society, he endeavoured to prove that such a journey was neither so visionary nor so very perilous as it might appear to those who were unacquainted with the Arctic regions. The Polar Sea in some meridians would, he doubted not, present one continued

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sustain the weight both of the men and b
afford every where sure and solid footing.
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though wholly unfit for that rugged an
surface over which Captain Parry was c
tread. We are even inclined to ask, whe
machinery might not be beneficially int
Could there not be constructed a light
bridge, to be thrown across chasms and fr
mock to hummock, over which the keel of
by due adaptation might slide as on a rail
the evils of friction be avoided?—The col
less, would be most extreme and intense;
tain Parry's experience and management d
four winterings seem to have removed eve
hension that it would prove fatal. The bo
be hermetically closed, with winding c
like the winter-huts of the Esquimaux; a
clearly established that, even in the dark
of the Polar winter, provided tempest di
the sky, it was possible, and even most sa
perform brisk movements in the open air.
vellers would indeed require an additio
spirituous fuel, not a weighty article; als
stock of clothes; but these last it would
way expedient to wear on their persons.
circumstance which seems seriously alarm
observation made by Captain Parry, that
allowance of provision, amounting to ten
biscuit and nine of pemmican, was not f
ficient to maintain the men in full vig
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eed to think of sending a party to the Pole
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On the 22d June the expeditionary party quitted the ship, and betook themselves to the boats amid the cheers of their associates. Although all the shores were still frozen, they had an open sea, calm and smooth as a mirror, through which they sailed slowly but agreeably with their loaded vessels. After proceeding thus for about eighty miles, they reached, not, as they had hoped, the main body of the ice, but a surface intermediate between ice and water. This could neither be walked nor sailed over, but was to be passed by the two methods alternately. However, on such a strange and perilous plain, it behoved them to land, in order to commence their laborious and monotonous journey towards the Pole.

Captain Parry describes in an interesting manner ıe singular mode of travelling to which they were mpelled to adhere. The first step was to convert ight into day; to begin their journey in the even- ıg and end it in the morning. Thus, while they ad quite enough of light, they avoided the snow- are and the blindness which it usually produces; esides, the ice was drier and harder beneath them; nd they enjoyed the greatest warmth, when it was ost wanted, during the period of sleep; but they ere a little annoyed by dense and frequent fogs. hus their notions of night and day became in- erted. They rose in what they called the morn- ıg, but which was really late in the evening, and, aving performed their devotions, breakfasted on arm cocoa and biscuit; then drawing on their oots, usually either wet or hard frozen, which, hough perfectly dried, would have been equally aked in fifteen minutes, the party travelled five r six hours, and a little after midnight stopped to ine. They next performed an equal journey in vhat was called the afternoon; and in the evening, hat is, at an advanced morning hour, halted as for he night. After applying themselves to obtain est and comfort, they put on dry stockings and fur oots, cooked something warm for supper, smoked heir pipes, told over their exploits, and, forgetting he toils of the day, enjoyed an interval of ease nd gayety. Then, well wrapped in their fur cloaks, hey lay down in the boat, rather too close together perhaps, but with very tolerable comfort. The sound of a bugle roused them at night to their breakfast of cocoa, and to a repetition of the same round.

e progress for several days was most slow and ious. The floes were small, exceedingly rough, and with interposed lanes of water, which could not be crossed without unloading the boats. It was commonly necessary to convey these and the stores by two stages, and the sailors, being obliged to return for the second portion, had to go three times over the same ground; sometimes they were obliged to make three stages, and thus to pass over it five times. There fell as much rain as they had experienced during the whole course of seven years in a lower latitude. A great deal of the ice over which they travelled was formed into numberless irregular needle-like crystals, standing upwards, and pointed at both ends. The horizontal surface of this part had sometimes the appearance of greenish velvet, while the vertical sections, when in a compact state, resembled the most beautiful satin-spar, and asbestos when going to pieces. These peculiar wedges, it was supposed, were produced by the drops of rain piercing through the superficial ice. The needles at first afforded tolerably firm footing; but, becoming always more loose and moveable as the summer advanced, they at last cut the boots and feet as if they had been penknives. Occasionally, too, there arose hummocks so elevated and rugged that the boats could only be borne over them, in a direction almost perpendicular, by those formidable operations called "a standing pull and a bowline haul." The result of all this was, that a severe exertion of five or six hours did not usually produce a progress of above a mile and a half or two miles, and that in a winding direction; so that, after having entered upon the ice on the 24th June, in lati-

le 81 degrees 13 minutes, they found themselves the 29th only in 81 degrees 23 minutes, having is made only about eight miles of direct *northing.* ptain Parry soon relinquished all hope of reaching : Pole; however, it was resolved to push on as far possible. The party came at length to somewhat oother ice and larger floes, and made rather bet- progress. While the boats were landing on one these, the commander and Lieutenant Ross usu- y pushed on to the other end to ascertain the best ırse. On reaching the extremity, they commonly unted the largest hummock, whence they be- d a scene of which nothing could exceed the ariness. The eye rested only upon ice, and a r hid in dense and dismal fogs. Amid this scene inanimate desolation, the view of a passing bird, of ice in any peculiar shape, excited an intense erest, which they smiled to recollect; but they re principally cheered by viewing the two boats the distance, the moving figures of the men wind- ; with their sledges among the hummocks, and hearing the sound of human voices, which broke : silence of this frozen wilderness. The rain, d the increasing warmth of the season, indeed, ıdually softened the ice and snow, but this only ıused the travellers to sink deep at every step. At e place they sunk repeatedly three feet, and re- ıired three hours to make a hundred yards. As ey halted on the evening of the 5th July, the argin of the floe broke, and a bag of cocoa fell into ıe sea, but luckily alighted on a tongue of ice and as taken up.* At the same time pools and even

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of the Admiralty, the plan of an expedition over the Polar ice. Their Lordships, having referred this proposal to the council and committee of the Royal Society and received a favourable report as to the advantages which science might derive from such a journey, applied themselves with their usual alacrity to supply the captain with every thing which could assist him in this bold undertaking. The Hecla was employed to carry him as far as a ship could go, and with her were sent two boats, to be dragged or navigated, according to circumstances, along the unknown and desolate expanse between Spitzbergen and the Pole. These boats, being built of successive thin planks of ash, fir, and oak, with sheets of water-proof canvas and stout felt interposed, united the greatest possible degree of strength and elasticity. The interior was made capacious and flat-floored, somewhat as in troop-boats, and a runner attached to each side of the keel fitted them to be drawn along the ice like a sledge. Wheels were also taken on board, in case their use should be found practicable.

The adventurers started early. On the 27th March, 1827, they were towed down the river by the Comet steam-boat, and on the 4th April weighed from the Nore. On the 19th they entered the fine harbour of Hammerfest in Norway, where they remained two or three weeks, and took on board eight rein-deer, with a quantity of picked moss for their provender. Quitting Norway on the 11th May, they soon found themselves among the ice, and met a number of whale-ships. On the 13th they were in view of Hakluyt's Headland, when the captain endeavoured to push his way to the

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cord.

The return was equally laborious as the going

out, and in some respects more unpleasant from the increasing softness of the ice and snow,—depriving them of confidence in any spot on which they could place their boats or persons, and often sinking two or three feet in an instant. However, the drift southward made no longer any deduction from their progress, but added to it, every observation giving them several miles beyond their reckoning. There was more open water, and it was a relief to them that the sun in their nightly journeying was lower in the horizon; while, being to the northward, he did not, as formerly, glare in their faces. They met several bears, and killed one, which was eagerly devoured by the hungry crew; but the meal was followed by such severe symptoms of indigestion as inspired an unfavourable opinion regarding the flesh of this animal. Captain Parry attributed the bad effects to the enormous quantity eaten. At length, on the 11th August, they heard the sound of the surge breaking against the exterior margin of the great icy field. They were soon launched on the open sea, and reached Table Island, where a supply of bread had been deposited; but Bruin had discovered it, and devoured the whole. They found, however, some accommodations; while the stores left at Walden Island were still quite undisturbed. On the 21st the navigators arrived in Hecla Cove, from whence, soon afterwards, they sailed for England.

Such was the result of the first and only attempt to penetrate to the Pole over the frozen surface of the deep. All the prowess, energy, and hardihood of British seamen were exerted to the utmost, without making even an approach towards the fulfil-

ent of their object. A failure so complete has sus-
nded for the present every idea of resuming the
oject; yet there seems nothing in the details just
ven to deter from the enterprise as impossible, or
en to render it very unfeasible. The unfavour-
ble issue seems evidently owing to the advanced
ason of the year, when the thaw and consequent
solution of the ice had made great progress, and
l the materials of the great northern floor were
oken up. The water, in its progressive conver-
on from solid into fluid, presented only a treach-
ous quicksand, in which the travellers sunk at
ery step, with the peril of being finally swallowed
p. The ice, in these intermediate stages of its
ansition into water, and in the breaches and pres-
ures to which this gave rise, assumed a variety of
uch more rugged forms than when it was spread
nd fast bound over the surface of the ocean. Its
ndency also, when loosened, to float to the south-
ard, carrying with it whatever is moving along its
rface, inevitably defeats every attempt to proceed
ver it in a contrary direction. We entirely con-
ur, therefore, in Mr Scoresby's opinion, that a de-
arture much earlier in the season would be quite
ndispensable to give any chance of success. We
would even go farther than he, and advise to start
t the first dawn of the Polar day, when there
would be a probable chance of returning by the end
f June. The great plain of ice would be much
moother and firmer at that than at any other
eason. It would be deeply covered with snow,
which would fill various interstices, convert rugged
steeps into sloping ridges, and produce a surface ge-
nerally *more level and uniform*. This coating, too,

would then be much harder, perhaps sufficient to sustain the weight both of the men and boats, and afford every where sure and solid footing. Wheels, it is probable, might be employed with advantage, though wholly unfit for that rugged and sinking surface over which Captain Parry was obliged to tread. We are even inclined to ask, whether other machinery might not be beneficially introduced? Could there not be constructed a light portable bridge, to be thrown across chasms and from hummock to hummock, over which the keel of the boats by due adaptation might slide as on a railway, and the evils of friction be avoided?—The cold, doubtless, would be most extreme and intense; but Captain Parry's experience and management during his four winterings seem to have removed every apprehension that it would prove fatal. The boats might be hermetically closed, with winding entrances, like the winter-huts of the Esquimaux; and it was clearly established that, even in the darkest depths of the Polar winter, provided tempest did not fill the sky, it was possible, and even most salutary, to perform brisk movements in the open air. The travellers would indeed require an addition to their spirituous fuel, not a weighty article; also a larger stock of clothes; but these last it would be every way expedient to wear on their persons. The only circumstance which seems seriously alarming, is an observation made by Captain Parry, that the daily allowance of provision, amounting to ten ounces of biscuit and nine of pemmican, was not found sufficient to maintain the men in full vigour; and truly, when contrasted with their severe toils, it does appear an inadequate supply. It were dread-

ed to think of sending a party to the Pole
t allowance. The quantity could not well
ased without making the drag too severe;
cannot help thinking that the victuals se-
ulfilled very imperfectly the obvious condi-
being such as to comprise the greatest possi-
riment in the least possible bulk. Thus it
naccountable that the greater part of the
ould have been farinaceous, in the form of
uit, which contains surely much less nour-
than the same weight of animal food. We
not to be at all versant in the mysteries of
; yet portable soup, for instance, might cer-
ave been so prepared as to embody a much
amount of nutritive substance than mere
nd pounded beef; and, if duly seasoned,
ave formed a most comfortable mess under
ws of the Pole. The addition of some rich
heese, and butter, might seem likely to com-
tore which, without exceeding in weight that
ain Parry, would yield a much larger pro-
of nourishment and strength.—We should
to recommend Mr Scoresby's plan of being
to the Pole by rein-deer, or even of trusting
m of any description. These animals would
e to many casualties, and, should they break
t an advanced period of the route, the re-
ght be disastrous in the extreme.

project would require, of course, that the
ould winter on the northern coast of Spitz-
—an arrangement, we conceive, indispensable
l that delay which had such an influence in
ing the late expedition. We are surprised
that *even Captain* Parry, after so many

successful winterings, considers this as a seriou
jection. In fact, on seeing it admitted, that b
the close of autumn a ship might penetrate to
and perhaps to 83°, we are tempted to ask wh
a discovery-vessel might not, in the first se
push forward to that latitude, and find a st
either in an island, if such should be found, a
been done before, or if not, whether it might
enclose itself within one of the great fields of
and there await the arrival of spring? A very
siderable and probably the roughest portion of
Polar route would thus be avoided.

CHAPTER IX.

The Northern Whale-Fishery.

Objects of the Whale-fishery—Early practised on the Coasts of Europe—First Fishing-voyages to the Arctic Sea—Disputes between the different Nations—Accommodation effected—Dutch Fishery—English Fishery; Its slow Progress and ultimate Success—Various Attempts to form Fishing-settlements on the Arctic Shores—Mode of conducting the Fishery—Equipment—Voyage—Attack and Capture of the Whale—Operation of Flensing, &c.—Situations in which the Fishery is carried on; Its Dangers—Various Shipwrecks and Accidents—Recent Changes in the Fishing-stations; Increased Dangers—The Jane of Peterhead—Capital invested in the Trade; Its Produce; Ports whence it is carried on—Disasters and Shipwrecks of 1830; Adventures on the Ice; Extrication of the remaining Vessels; Singular Preservation of Part of the Crew of the John; General Results—Fishery of 1831.

We have formerly had occasion to notice the great number and stupendous magnitude of those animal forms with which nature has filled the abysses of the Arctic Ocean. The cetaceous orders, which include the mightiest of living beings, belong peculiarly, and in some respects exclusively, to those northern depths. Confident in their multitude and their strength, they would for ever have rested peaceful and undisturbed amid the vast and dreary domain which Providence has given them to occupy, had not the spirit of avarice commenced against *them a deadly warfare.* Man, ever search-

ing the remotest parts of the globe for objects which might contribute to his use and accommodation, discovered, in those huge animals, a variety of substances fitted for the supply of important wants. Even after his more refined taste rejected their flesh as food, the oil was required to trim the winter lamp, and to be employed in various branches of manufacture; while the bone, from its firm, flexible, and elastic quality, is peculiarly fitted for various articles of dress and ornament. No sooner, therefore, had the course of discovery opened a way into the seas of the North, than he discerned the benefits which might be derived from snatching the spoil of these tenants of the frozen waters. He commenced against them a system of attack that was soon converted into a regular trade, but one more full of adventure and peril than any other by which human subsistence is earned.

It has been generally supposed that whale-fishing, as a commercial pursuit, arose subsequently to the revival of navigation in Europe; but the researches of Mr Scoresby leave no doubt that, on a small scale at least, it existed at a much earlier period. Even the voyage of Ohthere, in 890, shows that its operations were already carried on with some activity on the coast of Norway. Indeed it was natural that, in this native region of the *cetacea*, their capture would commence sooner than elsewhere, and at an era probably ascending far beyond human records. Still this was not the true whale, an animal which never leaves its haunts in the depths of the Arctic zone. It was that species of dolphin called bottle-nose, which alone reaches the northern extremities of Europe, is occasionally

on the coasts of Orkney and Shetland; mes penetrates much farther south.

Northmen, in their career of conquest and at over Europe, introduced on the coast of the hunting of the whale, which, to these ariners, was at once a trade and a sport,— ound in the southern seas an inferior spe- acted thither by the shoals of herrings on fed. These smaller fish frequent the Bay y, to which they seem to make a periodical n, and where they are arrested by the wide f its shores. Ancient documents prove that mans, the Flemings, and even the English, them as a valuable commodity; less, how- the oil, which in this species is not very it, than for the flesh, which satisfied the and even pleased the palate of our rude an- Whales' tongues are ranked among the deli- at adorned the table of the middle ages.

bay just named afforded the chief theatre southern whale-fishery, which was almost engrossed by the people inhabiting its in- ores; those of Bearn and Gascony on the side, and of Biscay on the Spanish. The in particular soon surpassed all other na- nd carried to such perfection the processes d with this pursuit, that the most expert shers in modern times have done little more py their usages. By degrees they extended ventures into the northern seas, where they people of Iceland, a Norwegian colony, d already engaged in this trade. Here the and Icelanders, combining their efforts, soon *the fishery into* a very flourishing state.

This, however, was conducted on a small scale, when compared with the enterprise of modern nations. Yet the first northern navigators were not attracted thither by this special object, but stumbled on it, as it were, in the course of their arduous attempts to accomplish a passage to India by the Arctic Seas. Barentz, in 1596, discovered Spitzbergen, long the main seat of this fishery, and even examined a considerable extent of its shores; but as these presented an obstruction to his views of reaching India, and as his voyage closed at last in disaster no other result was obtained beyond a certain knowledge of geography and of the animal kingdom.

The English were the first who pushed their operations into the depth of the Arctic Ocean. The Bear Island of Barentz, being rediscovered and named after Alderman Cherie, gave rise to a series of voyages for the capture of the walrus, of which some account has been already given. The views of the merchants were much extended, when Hudson, having engaged in his daring attempt to reach and to cross the Pole, surveyed Spitzbergen on East Greenland even to its northern extremity. Although unable to penetrate further, he gave information regarding the immense number of whales which were seen on those Arctic shores. Thenceforth the adventurers fitted out for Polar discovery were instructed to cover their expenses, as far as might be, by the occasional capture of these valuable animals. This arrangement, as formerly remarked, was not happy, so far as discovery was concerned, since the considerations of profit were very likely to supersede the main object of the voyage. Poole, in 1610, confined his views al-

most entirely to the capture of the walrus; but, as he reported a great abundance of whales, the Company next year sent out the Mary Margaret, furnished with Biscayan harpooners, and with every thing requisite for the great fishery. Captain Edge accordingly succeeded in taking a small whale, which yielded twelve tuns of oil; the first, as he conceives, that was ever extracted in the Greenland Seas. The termination of this voyage was unfortunate; yet the Muscovy Company next year sent out two ships, the Whale and the Seahorse, to follow up the design. The Dutch, meantime, intent on every form of commercial adventure, had vessels that very year for the same purpose in the Greenland waters. These our countrymen chose to consider as interlopers, and, being the stronger party, compelled their rivals to decamp without even attempting the fishery. Next year the same Company obtained a royal charter, prohibiting all besides themselves to intermeddle in any shape with this valuable branch of industry. To make good this privilege, which the Dutch were not disposed to consider well founded, the Company fitted out seven strong and well-armed ships, whose commanders, on reaching the seas round Spitzbergen, found them filled with ships of different nations, Dutch, French, and Spanish. All these the English compelled either to depart, or to fish under the condition of delivering half of the proceeds to them as the lords of the northern seas. So busy were they, however, in excluding others, that, little time or care being bestowed on their own fishing, they returned very slenderly laden. Foreign nations exclaimed *against this interference* as a most flagrant

example of the tyranny of the new mistress of the ocean; and, indeed, the grounds on which England rested her claim do not appear to have been valid. She alleged the prior occupation made by Sir Hugh Willoughby; but supposing that this mere view, through mist and tempest, of the Spitsbergen coast could have established a permanent right to rule over the neighbouring waters, this discovery was shown by Peter Plancius the cosmographer, on the clearest grounds, to have been made by Barentz, and not by Sir Hugh. The commencement of the fishery by the English formed certainly a better claim; yet still by no means sufficient to establish perpetual sovereignty over those vast seas. The Dutch determined not only to refuse acquiescence, but to repel force by force; for which purpose they sent out fleets so numerous and so well armed, that for some years only slight and partial annoyances were sustained by them; while the two governments appear to have looked on and allowed the adventurers to fight it out. At length, in 1618, a general encounter took place, which terminated to the disadvantage of the English, one of whose ships was taken and carried into Amsterdam. The Dutch administration, reluctant to involve themselves in a quarrel with their powerful neighbour, prudently restored the vessel with its lading and crew,—bestowing at the same time a reward on the gallant seamen who had made the capture. At length it appeared expedient to put an end to this perpetual collision. There was admitted to be room enough for all the nations of Europe, provided they ceased to annoy each other; therefore a division was made of the coasts and

Spitzbergen among such states as had been
med to resort to the fishery. The English,
l to have somewhat of the best claim, were
d with the first choice; they pitched upon
n Bay, Clock Bay, Safety Port, and Mag-
Bay, in the more southern part of the coast,
ar the large island called Charles' Foreland.
followed the other nations in the order of
djudged rights. The Dutch chose the fine
at the north-west extremity, which they
Amsterdam, with three bays, one of which,
n it and the mainland, they called Holland-
y. The Danes and Hamburghers found an
and a bay between the Dutch and English
; while the French and Spaniards were
to content themselves with Biscayners'
and other bleak promontories along the
n coast.

English Russia or Muscovy Company were
llowed full scope for carrying on the trade,
which they diligently excluded the rest of
ountrymen. Their pursuits, however, were
ly too various, and their transactions on too
scale, for permitting them to bestow on this
t trade that close attention which could
render it productive. The gains of their
were more than absorbed by extensive
they gradually limited their transactions,
gland scarcely sent a ship to the North, and
l the markets filled by her industrious

Dutch, meantime, succeeded in converting
hery into a grand source of national wealth.
t, *according to the usage* of the time, they

followed the objectionable system of an exclusive company, though on a somewhat liberal scale. The original body, formed at Amsterdam, was obliged to admit others belonging to Zealand and Friesland, and finally to receive into their number many wealthy individuals of the province of Holland. The nation, having thus invested an immense capital in this trade, and carrying it on with their characteristic prudence and diligence, raised it to the highest pitch of prosperity. On their first arrival in the northern seas, the whales were seen extended on the face of the deep without any fear, and presenting themselves, as it were, to the stroke of the harpoon. The only difficulty was to carry them home; for one or two such large animals were sufficient to fill a ship. The Dutch adopted, therefore, the plan of extracting on the spot the oil and bones; thus reducing all the valuable substance into so small a compass, that one ship could convey the produce of numerous whales. They founded the village of Smeerenburg in the bay of the same name, where fish were discovered in extraordinary abundance. Boilers, tanks, coolers, and all the requisite apparatus, were erected on an immense scale; and this station, during the summer, became crowded and populous, resembling in some degree a northern Batavia. The fishers caught whales without any effort, and had only to carry them two or three miles to the shore, where the oil was extracted. In this dreary corner, too, were enjoyed all the luxuries of life, among which are specially mentioned hot rolls, prepared every morning. A bell was rung, at the sound of which all the inhabitants ran to supply themselves with

hat seemed to belong to a different climate.
ger mentions that he entered this bay in
ıd found it occupied by 188 vessels, having
l the produce of 1959 fish.

r these easy circumstances, the trade, even
ıands of an exclusive company, became an
ɔurce of national wealth. Soon, however,
enced an unforeseen reverse. The whales,
and killed in such vast numbers, learned
the assault of that mighty destroyer who
ded their haunts, undisturbed for so many
s. They gradually, and at last almost en-
ɜerted Smeerenberg, removing into North
ɜre they were still taken with facility; but
lay was incurred in the conveyance of the
to the former station. From North Bay,
y gradually receded, and the fishers were
o follow them into the open sea, where
capture and transportation became more
ɜ difficult. These mighty animals relin-
ɒart after part of their native deeps, and
ry where compelled to give way before a
g power which they could not otherwise
They sought their final refuge near that
k of ice which forms the western boundary
hale-fishers' Bight in the Greenland Sea.
behoved the pursuers to follow; where,
:hemselves to frozen fields, they watched
mall hazard the movements of their prey.
nse and delay of conveying their prizes,
ɜ 2000 miles, to the harbour of Smeeren-
oming very inconvenient, arrangements
e, by which the whale, being fastened to
ɔf the ship, was flensed, or cleared of its

blubber and bone; after which the useless carcass was consigned to the deep. The village then left every foundation on which its prosperity had rested. The stores, furnaces, capacious vessels, and numerous utensils there deposited, were carried away; hence it is now difficult to trace the spot on which stood that once-flourishing settlement. At the same time the trade, become thus arduous and perilous, and yielding reduced profits, was no longer advantageous to an exclusive body. That once-prosperous company was accordingly dissolved, and the fishery thrown open to all who chose to engage in it: and such is the activity of individual enterprise that, even under a diminished prospect of success, a greater number of ships than ever was fitted out from the ports of Holland.

The English, meantime, did not remain altogether unconcerned spectators of this immense prosperity on the part of their neighbours. After the Muscovy Company was off the field, another was instituted, under the title of "The Company of Merchants of London trading to Greenland." They subscribed a capital of £40,000, which was increased successively to £82,000, though only £45,000 was actually paid. This undertaking proved most disastrous. In nine years the entire capital was lost, and the concern broken up. Its fall is traced by Elking to the usual loose and wasteful management incident to large companies carrying on their concerns by uninterested agents. Men were employed for masters who were entirely unacquainted with the business: they were paid by a fixed salary instead of receiving a share of the produce; hence they used to spend long intervals on shore,

ng themselves with hunting deer, and appro-
ng to their own use the fruits of the chase.
wreck of the Company's last ship, after the
re of eleven whales, precipitated their ruin.
e legislature, mortified that this trade, which
enriching the neighbouring nations, should
so fruitless in the hands of Britons, redou-
heir encouragements, and exempted from all
the produce of the national whale-fisheries.
favoured, and stimulated by the representa-
of Mr Elking, the South Sea Company deter-
l to embark in this pursuit a large proportion
eir capital. In 1725 they built twelve large
strong vessels, fully equipped with cordage,
, and fishing-implements. These ships went
n spring, and returned with twenty-five fish,
ı did not quite pay the expense of equipment;
ver this, upon the whole, was thought not a
beginning, and gave hopes of improvement,
h were far from being fulfilled. In 1730
ty-two ships were sent out, and returned with
twelve whales, so that a loss was incurred in
year of nearly £9000. The following season
little better; and the Company, finding that
ght years they had expended an immense sum
out the least prospect of repayment or profit,
v up the trade altogether.
otwithstanding these repeated and signal fail-
the British government did not relax their
In 1732 a bounty of twenty shillings per ton
granted to every ship exceeding 200 tons em-
d in the whale-fishery. Several private indi-
als were thus induced to embark in the trade,
with tolerable success; yet there being still no

appearance of its rising to any national importance, the bounty was extended, in 1749, to forty shillings. This produced at length the desired effect. In 1752 the ships sent out amounted to forty sail, including several from Scotland, whose merchants, in 1750, had begun to participate in the trade. In 1755 they had increased to eighty-two sail; and in the next twenty years the trade continued in a varying but generally prosperous state. Some regulations were introduced, with the view of making it more efficient as a nursery of seamen; and in 1776 it was considered firmly established, after the nation had paid in bounties upwards of £600,000, then reckoned an enormous sum. These considerations induced the legislature, in 1777, to reduce the rate to thirty shillings; but the fishery could not support itself on this encouragement, and the vessels employed fell, between the years 1775 and 1781, from 105 to 39. The allowance of forty shillings being restored, it regained its full prosperity, which soon appeared so steady as to admit the reduction of the bounty; the total amount of which, paid down to 1786, had not fallen short of £1,266,000. It was therefore reduced, in 1787, to thirty shillings; in 1792 to twenty-five shillings; and in 1795 to twenty shillings. Even under this lowest grant the fishery increased; able and intelligent whale-captains were formed, and Britain soon outstripped all other nations in a pursuit, in which her first steps had been so tardy. Another circumstance doubtless much favoured this progress. The Dutch, having imprudently admitted the French into their territory, were soon absorbed into the destructive vortex of that revolutionary

Involved in her long war with the mistress
seas, and subjected to the anti-commercial
of Napoleon, Holland saw all her fisheries,
every other branch of her foreign commerce,
etely annihilated, and British vessels enjoy-
ıe undisturbed possession of the northern seas.
, indeed, at length re-opened to that nation
ese channels of industry; but during a sus-
ın of twenty years their habits were broken,
connexions dissolved, their most skilful and
ïd whale-fishers had died out; while Britain,
had been in a state of constant activity and
vement, was now every way an overmatch
r formerly successful rival.

ore proceeding to describe the operations of the
-fishery, it may be proper to mention some
pts which, with a view to its more effectual
ution, were made to establish colonies on the
shores of the Polar Sea.

1633 the Dutch planned a settlement on the
ern coast of Spitzbergen, when seven sailors
teered for this arduous undertaking. On the
August the fleet left them in North Bay,
they not only undertook to live during the
r, but even to provide themselves with fresh
ions. They visited all the surrounding shores,
hree rein-deer and a number of sea-swallows,
ing also a great quantity of a species of wa-
ss. Their great ambition was to catch a
; but, though tantalized by the sight of
all their attempts failed. Even one found
nd fresh on the margin of the sea was floated
the tide before they could secure it.

was on the 3d October that the extreme cold

began to be felt, accompanied by numerous flights of birds passing to the southward. On the 10th one of the casks of beer was frozen three inches thick. The winterers were obliged to break the ice in pieces, and thaw it before the fire; but it made a very unpalatable liquor. On the 15th, having ascended one of the neighbouring mountains, they could see only a small portion of the sun's disk on the verge of the horizon, and in a few days it entirely disappeared; there was still a faint twilight of eight hours, which was soon reduced to five, and became every day shorter and shorter. In November the cold increased to the utmost pitch; they could not sleep in their beds, but were obliged either to crouch over the fire, or run at full speed through the hut, to keep up the vital energy. At length they ranged all their couches round the fireplace and a stove, yet still found it necessary to lay themselves down between the stove and the fire, holding their feet to the very embers. On the 20th December they saw a very bright illumination, resembling the Aurora Borealis, over the southern part of the sky. They could not, however, believe it to be the real Aurora, which they afterwards saw of peculiar splendour in its proper place. Night and winter continued in their utmost intensity till the 22d January, when they again enjoyed a twilight of six hours; at mid-day of the 26th there was no longer a star to be seen; but it was the 28th February ere, from a mountain-top, they could descry any portion of the sun's disk. Throughout the whole period they had dreadful contests to maintain with the Polar bear. On the 3d March one of these animals had received two balls in the

, which he was endeavouring to pluck out his paws, when the whole seven sailors rushed n with their lances. The bear dashed at one m, tore the lance from his hand, and threw n the ground; but, as the animal was about troy his victim, another sailor struck and d him to quit his hold. Afterwards, however, h pursued by all the seven, he plunged into a and escaped.

us these seven persons passed through this winter without any severe attack of scurvy; n the 27th May they were overjoyed by the of a boat, which conveyed them to a neigh- ng bay, where seven Dutch ships had assem- or the fishery. The active life led by these n must have been the chief cause by which health was so well preserved.

e success of this experiment induced the Dutch any to repeat the attempt in the following when seven other sailors, well furnished with als, and apparently with every means of with- ing the rigour of the climate, undertook to r in Spitzbergen. They appear, however, to been of a less active disposition than their pre- sors, and failed in every attempt to procure victuals. The sun having quitted them on 0th October, they shut themselves up in their out of which they scarcely ever stirred. In a veeks they were attacked by scurvy under its malignant form, which, amid this recluse life n the absence of fresh meat and vegetables, ued continually a more alarming type, till died, whose bodies the others with difficulty sed *in coffins.* *The survivors* killed a dog and

ox, which afforded some relief, but not enough to arrest the progress of the malady. The bears began to approach the hut, and would have been a blessing, had the men retained strength either to shoot the animals or to drag home the carcass. Their mouths became ulcerated; they were unable to chew their biscuit; and only Jerome Carloen had power to rise from bed and kindle a fire. The sun appeared on the 24th February; but they could no longer derive aid from this benignant luminary. The last entry in their journal is in the following terms:—"We are all four stretched on our beds, and are still alive, and would eat willingly, if any one of us were able to rise and light a fire. We implore the Almighty, with folded hands, to deliver us from this life, which it is impossible to prolong without food or any thing to warm our frozen limbs. None of us can help the other; each must support his own misery."—Early in spring the fishing-vessels arrived, and a party hastened to the hut. They found it so fast closed that an entrance could only be effected by opening the roof. They found it a tomb. Three of the men were enclosed in the coffins which had been framed for them; the other four lay dead,—two in their beds, and two on a piece of sail spread on the floor. These last had perished in consequence of mere inability to make the effort necessary for lifting and dressing the food; and they had suffered convulsions so dreadful that their knees and chin had come into contact, and their bodies resembled a rounded block.

The Dutch about the same time made an attempt to establish a colony on the Island of Jan Mayen,

with a result equally fatal. The journal of the ortunate seamen contains little except a very t register of the weather.

o farther attempts were made at that time to nize Spitzbergen. The next instance of win- ng on those dreary shores arose from necessity disaster. A Russian vessel, which had sailed Archangel for the whale-fishery in 1743, be- driven by the wind to the eastern coast of tzbergen, found itself beset amid floating ice out hope of deliverance. One of the party re- ected that a hut had been erected on this coast ome of his countrymen, under the apprehension eing obliged to spend the winter there. He three others set out to discover the place. With ch difficulty they reached the shore, leaping from gment to fragment of moving ice; then, spread- themselves in different directions, they found cottage which, though ruinous, afforded shelter the night. Early in the morning they hastened the shore, to convey to their comrades this happy elligence. But what must have been their hor- , when they saw only a vast open sea, without estige of the ship, or even of the numerous ice- gs which had been tossing through the waves. violent gale had dispersed them all, and appa- ntly also sunk the vessel, which was never heard more.

These four unfortunate seamen, abandoned on is dreadful shore, having the long winter to pass thout food, or arms and implements to procure y, did not, however, give way to despair. They d a gun with which they shot twelve deer; then eir *ammunition failed;* but some pieces of iron

were found on the shore, which they contrived to fashion into pikes. At the moment when their stock of venison was nearly exhausted, they found occasion to employ these weapons against a Polar bear by which they were assailed. The animal, being vanquished and killed after a formidable struggle, supplied for the present all their wants. His flesh was food, his skin clothing, his entrails, duly prepared, furnished the string, which alone had been wanting to complete a bow. With that instrument they were more than a match for the rein-deer and the Arctic fox, with the spoils of which they filled both their pantry and their wardrobe; and thenceforth they avoided, unless in cases of necessity, the encounter of the bear. Being destitute of cooking-utensils, they were obliged to devour the food nearly raw—dried either by suspension in the smoke during the long winter, or by exposure to the heat of the sun during the short summer. Yet this regular supply of fresh meat, and, above all, the constant exercise to which necessity prompted, enabled them to preserve their health entire during six years, in which they looked in vain for deliverance. In this time they killed 10 bears, 250 rein-deer, and a multitude of foxes. At the end of the six years one of them died, when the three survivors sunk into despondence, giving up all hopes of relief, and looking forward to the moment when the last of them would become the prey of the bears. Suddenly, on the 15th August, 1749, having descried a vessel at sea, they lighted fires on the heights, hoisted a flag formed of rein-deer skins, and were at length discovered by the ship, which proved to belong to their native country. They

loaded her with such a quantity of skins and lard as enabled them to pay eighty rubles for their passage, and afterwards to make a profitable voyage.

The example, thus involuntarily set by these Russian sailors, has been followed to a considerable extent by their countrymen, some of whom have since regularly wintered in huts on the Spitzbergen coast, employing themselves in chasing the walrus and seal along the shore, and the deer and Arctic fox in the interior. They are constantly engaged in hunting, unless when interrupted by tempest; and, even when the hut is blocked up with snow, they find their way out by the chimney. They have a reserve of salt provisions; but as much as possible subsist on the flesh, and drink the warm blood of the rein-deer, digging under the snow for cochlearia, sorrel, and other plants that act as antidotes to scurvy. By this regimen they generally preserve their health completely uninjured, though the British seamen employed in whale-fishing have occasionally found the dead body of a Russian who had fallen a victim to this dreadful malady.

It is now time to give a general view of the mode of catching whales, as practised by the two great fishing-nations of the present day,—the British and the Dutch.

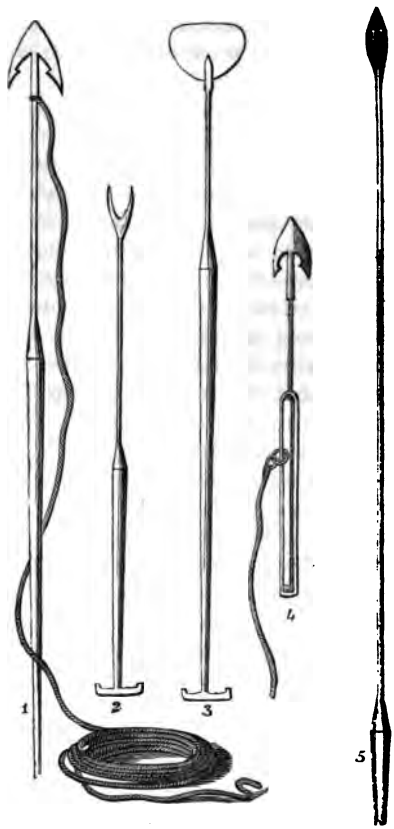
The first object is to fit out a ship suited to the trade. While the fishery was carried on in bays, or on the exterior margin of icy fields, very slight fabrics were sufficient; but now that the vessels depart early in the season, and push into the very heart of the northern ices, they are liable every moment to the most severe shocks and concussions. *The ship, therefore, must* be constructed in such a

manner as to possess a peculiar degree of strength. Its exposed parts are secured with double or even treble timbers; while it is *fortified*, as the expression is, externally with iron plates and internally with stanchions and cross-bars, so disposed as to cause the pressure on any one part to bear upon and be supported by the whole fabric. Mr Scoresby recommends the dimension of 350 tons as the most eligible. A ship of this size is sometimes filled; and the number of men required for its navigation, being also necessary for manning the boats employed in the fishery, could not be reduced even in a much smaller vessel. A larger tonnage than 350, being scarcely ever filled, involves the proprietor in useless extra expense. The Dutch are of opinion that the vessels destined for this fishery should be 112 feet long, 29 broad, and 12 deep, carrying seven boats, and from forty to fifty seamen. One of the most essential particulars is the crow's nest, a species of sentry-box made of canvass or light wood, pitched on the maintop-mast, or top-gallant-mast head. This is the post of honour, and also of severe cold, where the master, provided with a telescope and a speaking-trumpet, often sits for hours in a temperature thirty or forty degrees below the freezing-point, and whence he can descry all the movements of the surrounding seas and ice, and give directions accordingly.

The whaling-vessels usually take their departure in such time as to leave the Shetland Isles about the beginning of April; and before the end of the month arrive within the Polar Seas. It was long customary to spend a few weeks at what is called the Seal-fishers' Bight, extending along the coast of

Greenland, ere they pushed into those more northern waters, where, amid fields and mountains of ice, the powerful and precious *mysticetus* is tossing; but in later times it has become usual to sail at once into that centre of danger and enterprise.

As soon as they have arrived in those seas which are the haunt of the whale, the crew must be every moment on the alert, keeping watch day and night. The seven boats are kept hanging by the sides of the ship, ready to be launched in a few minutes; and, when the state of the sea admits, one of them is usually manned and afloat. These boats are from 25 to 28 feet long, about 5½ feet broad, and constructed with a special view to lightness, buoyancy, and easy steerage. The captain or some principal officer, seated in the crow's nest, surveys the waters to a great distance, and the instant he hears the blowing of the huge animal which they seek to attack, or sees its back emerging from the waves, gives notice to the watch who are stationed on deck, part of whom leap into a boat, which is instantly lowered down, and followed by others. Each of the boats has a harpooner and one or two subordinate officers, and is provided with an immense quantity of rope coiled up and stowed in different quarters of it, the several parts being spliced together so as to form a continued line, usually exceeding four thousand feet in length. To the end is attached the *harpoon* (fig. 1), an instrument formed, not to pierce and kill the animal, but, by entering and remaining fixed in the body, to prevent its escape. One of the boats is now rowed towards the whale in the deepest silence, cautiously avoiding to give an alarm, of which he is



1. Hand Harpoon. 2. Pricker. 3. Blubber Spade.
4. Gun Harpoon. 5. Lance.

y susceptible. Sometimes a circuitous route is
pted in order to attack him from behind. Hav-
approached as near as is consistent with safe-
the harpooner darts his instrument into the
: of the monster.* This is a critical mo-
t; for, when the mighty animal feels himself
:k, he often throws himself into violent con-
ive movements, vibrating in the air his tre-
dous tail, one lash of which is sufficient to dash
at in pieces. More commonly, however, he
ges with rapid flight into the depths of the sea,
eneath the thickest fields and mountains of ice.
ile he is thus moving, at the rate usually of
t or ten miles an hour, the utmost diligence
t be used that the line to which the harpoon is
:hed may run off smoothly and readily along
i him. Should it be entangled for a moment,
strength of the whale is such that he would
w the boat and crew after him under the waves.
first boat ought to be quickly followed up by a
nd, to supply more line when the first is run
which often takes place in eight or ten minutes.
en the crew of a boat see the line in danger of
ig all run off, they hold up one, two, or three oars,
ntimate their pressing need of a supply. At the
ie time they turn the rope once or twice round
ind of post called the bollard, or billet-head, by
ich the motion of the line and the career of the
mal are somewhat retarded. This, however, is a
icate operation, which brings the side of the boat
vn to the very edge of the water, and if the rope

The harpoon is sometimes discharged from a peculiar species
un, in which case *the form, fig. 4,* is employed; but this mode
not come into very general use.

is drawn at all too tight, may sink it altogether. While the line is whirling round the bollard, the friction is so violent that the harpooner is enveloped in smoke, and water must be constantly poured on to prevent it from catching fire. When, after all, no aid arrives, and the crew find that the line must run out, they have only one resource,—they cut it, losing thereby not only the whale, but the harpoon and all the ropes of the boat.

When the whale is first struck and plunges into the waves, the boat's crew elevate a flag as a signal to the watch on deck, who give the alarm to those asleep below, by stamping violently on the deck, and crying aloud—"*A fall! a fall!* (Dutch, *val*, expressing the precipitate haste with which the sailors throw themselves into the boats). On this notice they do not allow themselves time to dress, but rush out in their sleeping-shirts or drawers into an atmosphere, the temperature of which is often below zero, carrying along with them their clothing in a bundle, and trusting to make their toilette in the interval of manning and pushing off the boats. Such is the tumult at this moment, that young mariners have been known to raise cries of alarm, thinking the ship was going down. A recent instance has even been mentioned to us, in which the panic was so extreme that it was speedily followed by death.

The period during which a wounded whale remains under water is various, but is averaged by Mr Scoresby at about half an hour. Then, pressed by the necessity of respiration, he appears above, often considerably distant from the spot where he was harpooned, and in a state of great exhaustion, which the same ingenious writer ascribes to the as-

sure pressure that he has endured when placed beneath a column of water 700 or 800 fathoms deep. All the boats have meantime been spreading themselves in various directions, that one at least may be within a *start*, as it is called, or about 200 yards of the point of his rising, at which distance they can easily reach and pierce him with one or two more harpoons before he again descends, as he usually does for a few minutes. On his re-appearance a general attack is made with lances (fig. 5), which are struck as deep as possible, to reach and penetrate the vital parts. Blood mixed with oil streams copiously from his wounds and from the blow-holes, dyeing the sea to a great distance, and sprinkling and sometimes drenching the boats and crews. The animal now becomes more and more exhausted; but, at the approach of his dissolution, he often makes a convulsive and energetic struggle, waving his tail high in the air, and whirling it with a noise which is heard at the distance of several miles. At length, quite overpowered and exhausted, he lays himself on his side or back, and expires. The flag is then taken down, and three loud huzzas raised from the surrounding boats. No time is lost in piercing the tail with two holes, and through these ropes are passed, which, being fastened to the boats, tow the fish to the vessel amid shouts of joy.

The whale being thus caught and secured to the sides of the ship, the next operation is that of *flensing*, or extracting the blubber and whalebone. This, if the full strength of the ship be put upon it, may be executed in about four hours, though a much longer time is often employed. The captain *goes round and gives a dram* to each seaman, with

double allowance to important personages called kings of the blubber (Dutch *speck-koning*), w office it is to receive that precious commodity, stow it in the hold. Another high functio called the *specksioneer*, has the direction of a cutting operations. The first step is to form i the fish, between the neck and the fins, a called the *kent*, around which all proceedings be conducted. To it is fastened a machine blocks, called the kent-purchase, by which, wi aid of a windlass, the body of the whale c turned on all sides. The harpooners then, the specksioneer's direction, begin with a k spade (fig. 3), and with huge knives, to mak parallel cuts from end to end, which are d by cross-cuts into pieces of about half a ton. are conveyed on deck, and, being reduce smaller portions, are received by two king stow them in the hold. Finally, being by processes still farther divided, it is receive casks, and the packing completed by the instr No 2. As soon as the cutting officers have the whole surface lying above water, whic not exceed a fourth or a fifth of the anim kent machinery is applied, and turns the round till another part yet untouched is pre This being also cleared, the mass is again and so on till the whole has been exposed, a blubber removed. The kent itself is then ped, and the bones of the head being conve board, there remains only the *kreng*, a hug of fleshy and muscular substance, which is doned, either to sink, or be devoured by th of ravenous birds and sharks which duly att

sion. The blubber, now deposited in
y various processes cleared of its im-
into small pieces, and deposited in
e the Dutch establishment of Smeeren-
d, they extracted the oil in immense
ructed there for this purpose; but
ery was transferred to the icy banks
a, this operation was necessarily de-
cargoes were deposited in the Dutch
ts.

s of the fishery varies with the spot in
are found. The most advantageous
nland Seas afford has been considered
order of those immense fields of ice,
great extent of them is covered. In
when a whale is struck, and plunges
waters, he may rise in any part of a
and at any distance from the boats;
e a second harpoon can be struck, he
gain, and by continued struggles ef-
cation. But, in descending beneath
e fields, he is hemmed in by the icy
nd can only find an atmosphere to
urning to their outer boundary. The
h he can rise is thus contracted from
to a semicircle, or even smaller seg-
e a whale in this position is attacked
tter chance of success; even two may
the same moment,—a measure which,
a, often occasions the loss of both. In
g state of the Dutch fishery, a hun-
vessels have been seen at once ranged
1 of one of those immense fields, along
its formed so continuous a line that no

whale could rise without being immediately s
This situation, at the same time, is attended
considerable danger from the disruptions an
cussions to which these plains are liable.

When the ship is surrounded with floatin
ments of ice, the fishery, though difficult, is
productive. But the case is very different
these pieces are packed together into a mass in
ous to ships or boats, yet leaving numerous l
openings, through which the whale can mou
respire, without coming to the open mar
within reach of his assailants. The fisher
they see the whale blowing through one
apertures, must alight on the ice, and run fu
to the spot with lance and harpoon. At
such circumstances, however, is both diffic
perilous; and even when the whale is kil
dragging of his body either under or over t
the ship is a most tedious and laborious task
in the last case, cannot be effected without
the carcass in pieces.

In the progress of the season, when t
fields become open at various points, the f
then liable to the same evils as occur amon
ice. Still worse is the case when the sea
spread with that thin newly-formed cru
bay-ice. The whale easily finds or beat
through this covering, while the boats can
penetrate nor the men walk over it, wit
most imminent danger. Yet Mr Scoresby
a plan by which he continued to carry on h
ments, even over a very slender surface of
He tied together his whole crew, and ma
thus walk in a long line one behind another

ll in above four or five at a time, who were
elped out by the rest. The sufferers had a
console them after their cold plunge; and
ipensation was considered so ample, that
s suspected of sometimes allowing himself
in with the view of being thus indemnified.
ier grand distinction respects, first, the
nd fishery, which, generally speaking, is that
described, and is chiefly distinguished by
ense fields of ice which cover the ocean;
ondly, the Davis' Strait fishery, where
nent appears chiefly in the form of moving
ns, tossing through the deep. This last is
and dangerous, but usually productive. It
ed at a comparatively late period, since it
ientioned by the Dutch writers prior to
nd Mr Scoresby has been unable to as-
he date when it was begun by the British.
these few years it has experienced a re-
extension, of which a full account will
in the course of this chapter.
ingers of the whale-fishery, in spite of the
are, and under the direction even of the
erienced mariners, are imminent and ma-

ost obvious peril is that of the ship being
l sometimes dashed to pieces by the ap-
nd collision of those mighty fields and
s of ice with which these seas are continu-
l. The Dutch writers mention many of
pwrecks, among which the following are
remarkable.

Albert Raven, in 1639, when on the bor-
Spitzbergen ice, was assailed by a furi-

ous tempest. Though the ship was violent
tated, he succeeded in steering her clear of th
bank, and thought himself in comparative
when there appeared before him two immens
upon which the wind was violently drivi
vessel. He endeavoured, by spreading all hi
to penetrate between them; but in this a
the ship was borne against one with so ter
shock that it was soon felt to be sinking. I
ting the masts the mariners enabled her to pr
yet, as she continued to take in water, severa
were launched, which, being over-crowded,
and all on board perished. Those left in th
found their condition more and more des
The fore-part of the vessel being deep in the
and the keel rising almost perpendicular, it
extremely difficult to avoid falling into th
while a mast, to which a number had clung,
plunged down, and involved them in the
their unfortunate companions. At length th
separated from the rest of the vessel, carryin
it several more of the sailors. The survivo
clung to the wretched fragments, but one aft
ther was washed off by the fury of the waves
some, half-dead with cold and unable to retai
grasp of the ropes and anchors, dropped in
crew of eighty-six was thus reduced to twent
when the ship suddenly changed its positic
assumed one in which they could more easi
their footing on board. The sea then calme
during the respite thus afforded they felt a
sistible propensity to sleep; but to some it w
fatal sleep of extreme cold, from which the
awoke. One man suggested the construct

s accordingly framed, contrary to the
e; happily, no sooner was it launch-
aves swallowed it up. The remnant
ncountered next night another severe
: sufferings of the crew, from cold,
)urning thirst, were so extreme that
/ form seemed now to have encom-
In the morning, however, a sail was
· signals were understood, and being
l, twenty survivors, after forty-eight
extreme distress, were restored to

e Blecker (Bleacher), Captain Pit,
ainst the ice with such violence that
ll her rigging was dashed in pieces.
nty-nine of the crew quitted the ves-
ng by the help of poles and perches
ment of ice to another, contrived to
1 field. The captain with seven men
board, and endeavoured to open a
oon after the ship again struck, when
iged to go into a boat, and commit
chance, the snow falling so thick that
rcely see each other. As the weather
discovered their companions on the
/ a whale-line, and dragged them to
:. There the party, having waited
in hopes of relief, at length trusted
the boats, and in twelve hours were
Dutch vessel.
le, in 1675, lost a ship richly laden,
wn suddenly; and the crew afterwards
boats over the sea for fourteen days
re *taken up*. Thirteen other vessels

perished that year in the Spitzbergen
seasons afterwards Captain Bille lost
by the violent concussion of the ice, t
ing just time to save themselves on a
At the moment of their disaster they
to a large floe along with another, a b
Red Fox; which last shortly after
went a similar fate, being struck w
lence that the whole, hull and masts
appeared almost in an instant,—the
Captain Bille's company, having had
to leap on the ice. The united crews
various plans,—some keeping their s
setting out in boats in different directi
in one way or other, reached home
year the Concord went down in an eq
manner; but the crew were happily t
neighbouring ship.

The whale-fishery is not more dist
examples of sudden peril and besetn
unexpected deliverance from the most
tuations.

Three Dutch ships, in 1676, after
pleted a rich cargo on the northern c
bergen, were at once so completely b
crews in general urged the necessity
over the ice, and endeavouring to rea
vessel. Ouvekees, however, captain
three, strongly urged the obligation of
their power to preserve such valuable
they agreed to make a farther tria
twenty days, the ice opened, and they
voyage homeward.

The Dame Maria Elizabeth, in 176

r the fishery, and was so fortunate as, by
h of May, to have taken fourteen whales.
lowever, a violent gale from the south blew
ce with such violence that the captain found
completely beset, and saw two Dutch ves-
one English go to pieces at a little distance.
th a brisk gale from the north gave him the
being extricated; when presently he was
l in a dense fog, which froze so thick upon
s and rigging that the ship appeared a mere
iceberg. On the atmosphere clearing, the
ht, and the birds winging their way to the
ard, announced the closing in of winter.
to make any progress, the seamen looked
l in despair to the prospect of spending the
in that frozen latitude. They had nearly
o the end of their provisions, and famine was
y staring them in the face, when they thought
iling the whales' tails, which proved very eat-
and even salutary against the scurvy. Thus
hoped to exist till the middle of February,
ıd which the prospect was very dismal; but
ıe 12th November there arose a violent north
, that dispersed the ice. Their hopes being
ıwakened, every effort was strained; and on
)th a north-wester brought on so heavy a rain
ıext day they were entirely clear of the ice,
ad a prosperous voyage homeward.

e year 1777 was one which exhibited, on the
st scale, all the vicissitudes of this occupation.
in Broerties, in the Guillamine, arrived that
ın the 22d June at the great bank of northern
here he found fifty vessels moored and busied
fishery. *He began it* prosperously: the very

next day, indeed, he killed a large whale. The day after, a tempest drove in the ice with such violence that twenty-seven of the ships were beset, of which ten were lost. Broerties, on the 25th July, seeing some appearance of an opening, caused the Guillamine to be warped through by the boats; but after four days' labour he found himself, with four other ships, in a narrow basin enclosed by icy barriers on every side. The captain, foreseeing the danger of permanent besetment, obliged the crew to submit to a diminution of their rations.

On the 1st August the ice began to gather thick, and a violent storm driving it against the vessels placed them in the greatest peril for a number of days. On the 20th a dreadful gale arose from the north-east, in which the Guillamine suffered very considerable damage. In this awful tempest, out of the five ships two went down, while a third had sprung a number of leaks. The crews were taken on board of the two remaining barks, which they greatly incommoded. On the 25th all the three were completely frozen in, when it was resolved to send a party of twelve men to seek aid from four vessels which a few days before had been driven into a station at a little distance; but by the time of their arrival two of these had been dashed to pieces, and the other two were in the most deplorable condition. Two Hamburgh ships, somewhat farther removed, had perished in a similar manner. Meantime the former came in sight of Gale Hamkes Land, in Greenland, and the tempest still pushing them gradually to the southward, Iceland at length appeared on their left. The two more distant ones, commanded by Dirk Broer and Roel of Meyn,

found a little opening, through which they contrived to escape. The crews of the three others were beginning to hope that they might at last be equally fortunate, when, on the 13th September, a whole mountain of ice fell upon the Guillamine. The men, half naked, leaped out upon the frozen surface, saving with difficulty a small portion of their provisions. The broken remnants of the vessel were soon buried under enormous piles of ice. Of the two other ships, one commanded by Jeldert Jans had just met a similar fate, and there remained only that of Jans Castricum, to which all now looked for refuge. By leaping from one fragment of ice to another, the men, not without danger, contrived to reach this vessel, which, though in extreme distress, received them on board. Shattered and overcrowded, she was obliged immediately after to accommodate fifty other seamen, the crew of the Jans Christiaanz of Hamburgh, which had just gone down, the chief harpooner and twelve of the mariners having perished. These numerous companies, squeezed into the crazy bark of Castricum, suffered every kind of distress. Famine, in its most direful forms, began to stare them in the face. All remoter fears, however, gave way, when, on the 11th October, the vessel went to pieces in the same sudden manner as the others, leaving to the unfortunate sailors scarcely time to leap upon the ice with their remaining stores. With great difficulty they reached a field of some extent, and with their torn sails contrived to rear a sort of covering; but, sensible that by remaining on this desolate spot they must certainly perish, they saw no safety *except in scrambling* over the frozen sur-

face to the coast of Greenland, which was in view. With infinite toil they effected their object, and happily met some inhabitants, who received them hospitably, and regaled them with dried fish and seal's flesh. Thence they pushed across that dreary region, treated sometimes well, sometimes churlishly; but by one means or other they succeeded at length, on the 13th March, in reaching the Danish settlement of Frederickshaab. Here they were received with the utmost kindness; and, being recruited from their fatigues, took the first opportunity of embarking for Denmark, whence they afterwards sailed to their native country.

The Davis' Strait fishery has also been marked with very frequent and fatal shipwrecks. In 1804, the Royalist, Captain Edmonds, was lost with all her crew: and in 1817, the London, Captain Mathews, shared the same fate. The only account ever received of either of these ships, was from Captain Bennet of the Venerable, who, on the 15th April, saw the London, in a tremendous storm, lying to windward of an extensive chain of icebergs, among which it is probable she was dashed to pieces that very evening. Large contributions were raised at Hull for the widows and families of the seamen who had suffered in these melancholy occasions.

Among accidents on a smaller scale, one of the most frequent is that of boats employed in pursuit of the whale being overtaken by deep fogs or storms of snow which separate them from the ship, and never allow them to regain it. A fatal instance of this kind occurred to the Ipswich, Captain Gordon; three of whose boats, after a whale had been caught, and even brought to the ship's side, were employed

ce of ice hauling in the line, when a storm y arose, caused the vessel to drift away, and ed her, notwithstanding the utmost efforts, er coming within reach of the unfortunate ho composed the greater part of her esta- nt. Mr Scoresby mentions several casual- he same nature which occurred to his boats' ies, all of whom, however, in the end hap- nd their way back. One of the most alarm- es was that of fourteen men who were left nall piece of floating ice, with a boat wholly to withstand the surrounding tempest; but their utmost despair they fell in with the of Whitby, and were most cordially receiv- board.

source, however, of the most constant alarm whale-fisher is connected with the move- of that powerful animal, against which, with nequal strength, he ventures to contend. lly, indeed, the whale, notwithstanding his se strength, is gentle, and even passive,— , even when he is most hotly pursued, to from his assailants by plunging into the depths of the ocean. Sometimes, however, rts his utmost force in violent and convulsive es; and every thing with which, when thus d, he comes into collision, is dissipated or de- l in an instant. The Dutch writers mention z Vienkes of the Gort Moolen (Barley Mill), fter a whale had been struck, was hastening second boat to the support of the first. The owever, rose, and with its head struck the o furiously that it was shivered in pieces, *ienkes was thrown* with its fragments on

ack of the huge animal. Even then this bold
er darted a second harpoon into the body of his victim; but unfortunately he got entangled in the line and could not extricate himself, while the other party were unable to approach near enough to save him. At last, however, the harpoon was disengaged, and he swam to the boat.

Mr Scoresby, in one of his earliest voyages, saw a boat thrown several yards into the air, which, falling on its side, plunged the crew into the sea. They were happily taken up, when only one was found to have received a severe contusion. Captain Lyons of the Raith of Leith, on the Labrador coast, in 1802, had a boat thrown fifteen feet into the air: it came down into the water with its keel upwards, yet all the men except one were saved.

The crew of Mr Scoresby the elder, in 1807, had struck a whale, which soon reappeared, but in a state of such violent agitation that no one durst approach it. The captain courageously undertook to encounter it in a boat by himself, and succeeded in striking a second harpoon; but another boat having advanced too close, the animal brandished its tail with so much fury that the harpooner, who was directly under, judged it most prudent to leap into the sea. The tail then struck the very place that he had left, and cut the boat entirely asunder, with the exception of two planks, which were saved by having a coil of ropes laid over them; so that, had he remained, he must have been dashed to pieces. Happily all the others escaped injury. The issues, however, were not always so fortunate. Aimwell of Whitby, in 1810, lost three men out

n, and in 1812 the Henrietta of the same port four out of six, by the boats being upset and crews thrown into the sea.

n 1809, one of the men belonging to the Reson of Whitby struck a sucking-whale; after ch the mother, being seen wheeling rapidly ıd the spot, was eagerly watched. Mr Scoresbeing on this occasion in the capacity of harıer in another boat, was selecting a situation for probable reappearance of the parent fish, when lenly an invisible blow stove in fifteen feet of bottom of his barge, which filled with water instantly sunk. The crew were saved.

ntanglement in the line, while the retreating le is drawing it off with rapidity, is often proıive of great disaster. A sailor belonging to John of Greenock, in 1818, happening to step the centre of a coil of running rope, had a entirely carried off, and was obliged to have lower part of the leg amputated. A harpooner, nging to the Henrietta of Whitby, had incauısly cast some part of the line under his feet; ın a sudden dart of the fish made it twist round body. He had just time to cry out,—"Clear ıy the line! O dear!" when he was cut almost nder, dragged overboard, and never more seen.

A whale sometimes causes danger by proving to alive after having exhibited every symptom of th. Mr Scoresby mentions the instance of one ich appeared so decidedly dead that he himself l leaped on the tail, and was busy putting a e through it, when he suddenly felt the animal ıing from beneath him. He made a spring tords *a boat that was some* yards distant, and,

grasping the gunwale, was assisted on board. The fish then moved forward, reared his tail aloft, and shook it with such prodigious violence that it resounded to the distance of several miles. After two or three minutes of this violent exertion, he rolled on his side and expired.

Even after life is extinct, all danger is not over. In the operation of flensing, the harpooners sometimes fall into the whale's mouth, with the imminent danger of being drowned. In the case of a heavy swell they are drenched, and sometimes washed over by the surge. Occasionally they have their ropes broken, and are wounded by each other's knives. Mr Scoresby mentions a harpooner who, after the flensing was completed, happened to have his foot attached by a hook to the kreng or carcase, when the latter was inadvertently cut away. The man caught hold of the gunwale of the boat; but the whole immense mass was now suspended by his body, occasioning the most excruciating torture, and even exposing him to the danger of being torn asunder, when his companions contrived to hook the kreng with a grapnel, and bring it back to the surface.

The whale, in attempting to escape, sometimes exerts prodigious strength, and inflicts upon its pursuers not only danger, but the loss of their property. In 1812, a boat's crew belonging to the Resolution of Whitby struck a whale on the margin of a floe. Supported by a second boat, they felt much at their ease, there being scarcely an instance in which the assistance of a third was required in such circumstances. Soon, however, a signal was made for more line, and as Mr Scoresby was pushing

with his utmost speed, four oars were raised in signal of the utmost distress. The boat was now seen with its bow on a level with the water, while the harpooner, from the friction of the line, was enveloped in smoke. At length, when the relief was within a hundred yards, the crew were seen to throw their jackets upon the nearest ice, and then leap into the sea; after which the boat rose into the air, and, making a majestic curve, disappeared beneath the waters with all the line attached to it. The crew were saved. A vigorous pursuit was immediately commenced; and the whale, being traced through narrow and intricate channels, was discovered considerably to the eastward, when three harpoons were darted at him. The line of two other boats was then run out, when, by an accidental entanglement, it broke, and enabled the whale to carry off in all about four miles of rope, which, with the boat, were valued at £150. The daring fishers again gave chase; the whale was seen, but missed. A third time it appeared, and was reached; two more harpoons were struck, and the animal, being plied with lances, became entirely exhausted, and yielded to its fate. It had by that time drawn out 10,440 yards, or about six miles of line. Unluckily, through the disengagement of a harpoon, a boat and thirteen lines, nearly two miles in length, were detached and never recovered.

Whale-fishers sometimes meet with agreeable surprises. The crew of the ship Nautilus had captured a fish, which being disentangled and drawn to the ship, some of them were employed to haul in the line. Suddenly they felt it pulled away as if *by another whale, and* having made signals for

more line, were soon satisfied, by the continued movements, that this was the case. At length a large one rose up close to them, and was quickly killed. It then proved that the animal, while moving through the waters, had received the rope into its open mouth, and, struck by the unusual sensation, held it fast between its jaws, and thus became the prey of his enemy.—The Prince of Brazils of Hull had struck a small fish, which sunk apparently dead. The crew applied all their strength to heave it up; but sudden and violent jerks on the line convinced them that it was still alive. They persevered, and at length brought up two fishes in succession, one of which had many turns of the rope wound round its body. Having been entangled under water, it had, in its attempt to escape, been more and more implicated, till, in the end, it shared the fate of its companion.

A view of the whale-fishery, as it existed prior to 1820, has thus been drawn from ample and authentic materials afforded by the Dutch and other earlier writers, as well as by the valuable work of the younger Mr Scoresby. Having understood, however, that within the last few years the trade has been turned into several new channels, we applied to certain intelligent individuals in the principal ports, from whom we have obtained such valuable information as enables us to bring down the history of its operations to the very latest period.

A remarkable change has lately taken place as to the waters in which the fishery is carried on. For more than a century it was confined to the space

ween Spitzbergen and Greenland, commonly ed the Greenland Sea. Early in the eighteenth tury Davis' Strait began to be frequented, and ships sent thither gradually increased in num-. A somewhat more ample return, in fact, was wn from those western seas, though Mr Scoresby ceives that the longer and more expensive voy-, and the increased hazards, fully counterbalan-this advantage. When he wrote, the Green-d fishery was still the most considerable, and ships proceeding thither were in the proportion hree to two of those sent to Davis' Strait. Since t time its produce has sustained a remarkable inution; the whales which, during the course two centuries, had been gradually retiring from ce to place, have at last sought refuge in the note and inaccessible depths of the Icy Sea.—nce this fishery has been almost abandoned,—ving employed in 1829 only one vessel, though 1830 the number was increased to four. For s almost entire loss of their original ground the alers have been compensated by the new and re extensive field opened up to them on the stern coast. The important expeditions sent t by government, under Ross and Parry, have de them acquainted with a number of admir-le stations on the farther side of Davis' Strait d in the higher latitudes of Baffin's Bay, which re before little known and scarcely ever fre-ented. They now, therefore, prosecute their hery almost exclusively in those seas, and follow method which is in many respects different.

The vessels destined for that quarter sail usually . *March, though some delay* their departure till

the middle or even the end of April. They proceed first to the northern parts of the coast of Labrador, or to the mouth of Cumberland Strait, carrying on what is called the South-west Fishery. After remaining there till about the beginning of May, they cross to the eastern shore of the strait, and fish upwards along the coast, particularly in South-east Bay, North-east Bay, Hingston Bay or Hare Sound. About the month of July they usually cross Baffin's Bay to Lancaster Sound, which they sometimes enter, and occasionally even ascend Barrow's Strait twenty or thirty miles. In returning they fish down the western shore, where their favourite stations are Pond's Bay, Agnes' Monument, Home Bay, and Cape Searle. If the ships be not previously filled, they commonly remain till the end of September, and in some instances persevere till late in October. Our informant at Peterhead mentions a vessel from that port which was *clean* on the last day of September; yet the captain proceeded with such spirit and resolution that after this date he caught five whales, making his cargo equal to the average of the year, and reached home by the 27th October.

The vessels for Greenland sail about the beginning of April, and return frequently in July, seldom remaining on the fishing-ground beyond the end of August.

The Davis' Strait fishery has always been subject to remarkable casualties, which have been still farther increased since the vessels took a wider range, and ventured into the higher and more frozen latitudes. Our correspondent at Aberdeen states that,—

1819, out of 63 ships there were lost 10
1821, ... 79 11
1822, ... 60 7

se wrecks have generally occurred in conse-
: of the ships being beset in their attempt to
om the eastern coast to Lancaster Sound,
that great barrier of ice which fills the centre
lin's Bay. The sides of the vessels have
mes been crushed together; at other times they
been pressed out of the water and laid upon
:. But experience seems to have enabled the
ers to guard, in some degree, against these
's. In 1829, of eighty-nine ships sent out
s fishery only four were lost; namely, the
:less, Bramham, of Hull; the Rookwood,
n, of London; the Jane, Bruce, of Aber-
the Home Castle, Stodart, of Leith.
eral of these shipwrecks have been attended
very peculiar circumstances. In 1825, the
:, Captain Gray, of Peterhead, was so com-
/ beset in Exeter Sound that, on the 1st
er, the crew were obliged to abandon her
ake a passage in other ships. Next year a
sent out to ascertain her fate, found her on
each, at a little distance from the place of
ident, completely uninjured. She was got off
w days, and brought home with her cargo
erhead, where she arrived on the 12th Sep-
.

826, the Dundee, Captain Dawson, of Lon-
aving ventured into the higher parallels of
's Bay, was in 74° 30′ north latitude so
:tely *beset and enclosed* within impenetrable

barriers, that the crew could obtain no assistance from the other ships. To add to their distress, a Dutch vessel near them was completely wrecked, and the men, to the number of forty-six, came on board entirely destitute. They were supported from the 23d August to the 6th October, when they set out in their boats to endeavour to reach the Danish settlement of Levely; but, as this was 350 miles distant, much doubt was entertained if they would ever arrive at their destination. The crew of the Dundee, reduced to extreme distress by the want of provisions, succeeded in killing some seals and bears, on whose coarse flesh they were thankful to sustain life. On the 1st February they caught a whale, and on the 16th a second, which afforded great relief, especially as other fishes were attracted by the desire to feed on the carcass of the huge animal. Unfortunately for their repose, the sea was not so completely frozen but that enormous icebergs were still tossing through it with thundering noise, tearing up the fields by which the ship was surrounded. On the 22d February, one of uncommon magnitude was seen bearing directly upon their stern, its collision with which appeared inevitable; whereupon the seamen, snatching their clothes, leaped out upon the ice, and ran to some distance. The iceberg rolled on with a tremendous crash, breaking the field into fragments, and hiding from their view the ship, which they expected never to see again; but happily it passed by, and the Dundee appeared from behind it uninjured,—a spectacle that was hailed with three enthusiastic cheers. The mariners lost sight of the sun seventy-five days, during which they suffered s

cold that they could not walk the deck for inutes without being frost-bitten. Luckily ere able to pick up a quantity of spars and belonging to the Dutch wreck, which af- a supply of fuel, otherwise they must have d from the intensity of the frost. By great ortune, too, the body of ice in which they nclosed drifted to the southward more than degrees (from 74° 30′, down to 63°), or a- 00 miles, and was thus brought nearly to uth of Davis' Strait. On the 1st April, the Lee, Captain Lee, of Hull, had just nced her fishing, the crew were agreeably ed by meeting the Dundee, whose catas- had excited the greatest interest at home; upplied her liberally with provisions, and necessary for enabling her to reach Britain. essel was accordingly liberated on the 16th and on the 2d June arrived off Shetland, e intelligence was immediately spread of this deliverance.

of the most affecting shipwrecks which ever ed in the northern seas was that of the Jane erhead, in 1826. Of this we can give a full t from an interesting narrative by Mr Cum- the surgeon, an eye-witness and sharer of the ty. This vessel sailed on the 15th March, on board only twenty-eight men; but re- at Lerwick a complement of twenty-three s of Shetland; owing to which arrangement, l as by contrary winds, she was detained till th. From the evening of that day to the 1st the ship encountered very stormy weather, she *successfully* withstood, and was then

steered into those western tracts of the Green
Sea which are the most favourable for the cap
of the seal. On the 14th, in the latitude of
the fishery began most prosperously. In one
the seamen killed 1138 seals, and the entire n
ber caught in five days exceeded 3070.
scene, however, could not be contemplated wit
some painful impressions. The seals attacked
only the young, as they lay fearlessly reposin
the ice, before they had yet attempted to pl
into the watery element. One blow of the
stunned them completely. The view of hund
of creatures bearing some resemblance to the
man form, writhing in the agonies of death,
the deck streaming with their gore, was at
distressing and disgusting to a spectator of any
ing. However, this evil soon gave way to o
of a more serious nature.

On the morning of the 18th April, the sailors
begun their fishery as usual; but a breeze sp
up, and obliged them by eleven o'clock to sus
operations. The gale continually freshened,
was the more unpleasant from their being surro
ed with loose ice, which a dense and heavy
made it impossible to distinguish at any dist
The mariners took in all sail, but did not a
hend danger till six in the evening, when the w
which had been continually increasing, bega
blow with tenfold fury. All that the narrator
ever heard of the united sounds of thunder,
pest, and waves, seemed faint when compared
the stunning roar of this hurricane. At eight
ship was borne upon a stream of ice, from w
she received several severe concussions; the c

ı was, that at ten the water began
.t twelve no exertion in pumping
er from being gradually filled.
he morning she became completely
he then fell over on her beam-ends;
giving themselves up for lost, clung
bject for immediate safety. By ju-
g away the main and foremasts, they
l the ship to right herself, when, be-
a stream of ice, she was no longer
ımediate sinking. The whole hull,
inundated and indeed immersed in
ı portion of the quarter-deck, upon
crew were now assembled. Here
an awning of sails to shelter them-
cold, which had become so intense
he extinction of life. Those endow-
ınd sense kept up the vital power by
ıt; but the natives of Shetland, who
such occasions of sinking into a self-
cy, piled themselves together in a
view of deriving warmth from each
Those in the interior of the mass
a considerable temperature, though
ıith severe pressure; and blows were
n knives drawn, to gain and to pre-
ıntageous position. On the 19th one
d of cold, another on the 20th, and
ə 21st,—events felt by the others as
my, chiefly, it is admitted, as form-
ıf their own impending fate.
the sun began to appear amid showers
l the 23d was ushered in by fine
clear sky. The opinions of the crew

were now divided as to what course they should steer in search of deliverance. Two plans were suggested: They could either stretch northward into the fishing-stations, where they might expect soon or later to meet some of their countrymen, by whom they would be received on board; or they might sail southward towards Iceland, and throw themselves on the hospitality of its inhabitants. The former plan was in several respects the more promising, especially as a vessel had been in sight when the storm arose. But its uncertainties were also very great. They might traverse for weeks these vast icy seas, amid cold always increasing, and with imminent danger of being swallowed up by the waves. Iceland was distant, but it was a definite point; and upon this course they at last wisely determined. Several days were spent in fitting out their two remaining boats,—all the others having been swept away,—and in fishing up from the interior of the vessel every article which could be turned to account. During this operation, the weather continuing fine, they could not forbear admiring the scene by which they were surrounded. The sea was formed as it were into a beautiful little frith, by the ice rising around in the most varied and fantastic forms, sometimes even assuming the appearance of cities adorned with towers and forests of columns. Continual efforts were necessary, meanwhile, to keep the wreck on the icy field; for had it slipped over into the sea, of which there appeared a strong probability, it would have gone down at once. By the 26th the boats were completely ready, having on board a small stock of provisions, and a single change of linen. At half-past one in

e 27th the mariners took leave, with
of the vessel, which "seemed a home
" leaving the deck strewed with clothes,
rovisions, to be swallowed up by the
ı as the icy floor on which it rested
,way.
ɔats, having received forty-seven men
very deep in the water; so that when
e arose, the men were obliged to throw
ıre clothing and every thing else which
ted, and soon saw their little wardrobe
e face of the sea. The leaky state of
rges entailed the necessity of hauling
of ice to be repaired. The seamen
ly obliged also to drag them both over
nd again to launch them. However,
wind in ten hours enabled them to
ıe miles, when they came to the ut-
the icy stream, and entered upon the
Their fears were not yet removed; for
e had arisen, their slender barks must
n overwhelmed. There blew in fact
which threw in a good deal of water,
evere cold; however, at seven in the
/ saw, with inexpressible pleasure,
nd distant, the lofty and snow-capped
Iceland. But these were still fifty
l much might intervene; so that the
ɔoon closed in, passed with a mixture
ır. Fortunately the morning was fa-
d about four they saw a black speck
e of the ocean. It proved to be an
., rocky, and seemingly uninhabited;
on any shore, however wild and de-

solate, promised a temporary relief. On turning a promontory, what was their joy to see a boat pushing out to meet them! and they were received by the natives of Grimsey (the name of the little island) with every mark of kindness and compassion. The seamen were distributed among the half-subterraneous abodes, and received a portion of the frugal and scanty fare on which the inhabitants subsisted. They were long without any means of communication by speech; but at length the clergyman appeared, who was able to converse in Latin with Mr Cumming. The latter, inquiring how his countrymen could best reach the mainland, was informed that the islanders would assist in conveying them to Akureyri, a small town, the residence of the nearest Danish governor, though situated at the distance of sixty-eight miles. Accordingly, at seven in the morning of the 2d May, they set sail, and, after a tedious voyage, reached at nine in the evening the coast of Iceland. They rowed along the shore, touching at various points, where they were hospitably received; till, on Thursday 4th May, they saw a cluster of irregular wooden structures, which, to their surprise, proved to be Akureyri, the capital of this quarter of the island. They were here also received with the most humane hospitality, and remained three months before they could obtain a passage home; during which delay unfortunately they lost nine of their number, chiefly from mortification and other morbid affections occasioned by extreme cold. In the middle of July they procured a passage in a Danish vessel, which brought them and their boats near to the coast of Shetland. Having landed at Lerwick, they were

surveyed by his Majesty's ship Investigator to Peterhead, where they arrived on the 5th August.

The whale-fishery deserves finally to be considered in its commercial relations, under which aspect it possesses considerable importance, whether we consider the capital invested, or the amount and value of the proceeds.

The first and principal employment of capital in this trade consists in the construction and fitting out of the vessels adapted for its various purposes. This expense greatly exceeds that of other ships of the same dimensions, owing to the manner in which the timbers must be doubled and fortified, the necessity of having seven boats, a copious supply of line, numerous casks, and fishing-implements. Mr Scoresby states that the Resolution of Whitby, of 291 tons, was built in 1803 with all these equipments, but without the outfit for a particular voyage, at £6321. In 1813 the Esk of Whitby, of 354 tons, cost £14,000; but this included the outlay for her first adventure, which, being supposed to amount to £1700, would make the expense of building and equipment only £12,300. The sum of £14,000 is stated to us from Hull as the estimate for building and furnishing at that port a ship of 350 tons, in the year 1812. Since this last period a great reduction has taken place. Mr Cooper, in 1824, reported to the House of Commons that the sum required was only £10,000. According to the information received in July 1830, from the different ports, we find that such a ship may now be built and completely equipped for about £8000. A Dundee correspondent calculates that half of this sum is expended in carpenter-*work, and the other* half in sails, rigging, *casks, lines, and other fishing*-apparatus.

Besides this original cost, a large annual expenditure is incurred in the prosecution of the fishery. There is first the outfit, being the provisions and other supplies put on board before the ship goes to sea. Mr Scoresby states the expense of fitting out the Resolution of Whitby, in 1803, to have amounted to £1470,—namely, provisions, coals, &c., £700; insurance, £413; advance-money to seamen, £393. The statements forwarded, at the date mentioned above, from the several ports upon this subject, vary in a remarkable degree. At Leith the estimate is from £700 to £1200; at Aberdeen £1400; at Peterhead from £1200 to £1500; while at Hull this outfit is reckoned at £2000, expressly stated as exclusive of seamen's wages. Probably there may be some difference as to the articles comprehended in these estimates. An English crew, besides, may expect to be more amply provisioned, while the voyage from Hull is undoubtedly somewhat longer. To this first outlay must be added the expenses incurred in the different stages of the fishery, as well as in preparing the cargo for sale. The pay of the master and harpooners is very judiciously made to depend almost entirely upon their success. They receive a certain sum for every whale struck, and afterwards for every tun of oil extracted. The seamen also, though they must have their monthly wages, obtain additional allowances in the event of a prosperous voyage. At Peterhead, it is estimated that, if a ship comes home *clean*, the entire loss will exceed £2000; while from Hull we have received a calculation which makes the total expense of a voyage, producing 200 tuns of oil, to be £3500 exclusive of insurance.

From these data we may form some estimate of

e entire capital invested in the trade. Although e number of ships annually sent out scarcely exds ninety, it is probable that there may be at st a hundred in a state fit for sailing. The anal expenditure on each may be averaged at £3000. e value of wharfs, warehouses, machinery for excting the oil, &c., was stated by Mr Cooper to e House of Commons as amounting, at Hull, to 0,000 or £70,000; and as that port enjoys about hird of the trade, these establishments may probly have cost altogether about £200,000. We us obtain

100 ships at £8000	£800,000
90 voyages at £3000	270,000
Warehouses, &c.	200,000
Capital invested	£1,270,000

The produce of the fishery consists of oil and of alebone; none of the other articles, in an estiate of this kind, being worthy of much considern. The prices of these two commodities vary eatly, both at different periods and from one year another.

Whale-oil, in 1742, is stated to have sold for 18 per tun; but in the following year it fell to 14. In 1801 it rose so high as £50; but in 02 was only £31; and in 1807 had sunk so low £21. In 1813 it reached a higher price than ever, e finest quality being sold for £60; but the prosrous fishery of 1814 brought it down again to 32. There has been since, on the whole, a conlerable reduction of price, chiefly, it may be preumed, from the extensive use of coal-gas. Mr oresby reckons the average of the nineteen years ding *with 1818, at £34, 15s.*; while an intelli-

gent correspondent at Aberdeen states that of the last ten at £22, 5s. The current price (July 1830) was given in the Scotch ports at from £24 to £26, in Hull at £24.

Whalebone bore anciently a very high price, when the rigid stays and the expanded hoops of our grandmothers produced an extensive demand for this commodity. The Dutch have occasionally obtained £700 per ton, and were accustomed to draw £100,000 annually from England for that one article. Even in 1763 it brought £500; but it soon fell, and has never again risen to the same value. During the present century the price has varied between £60 and £300, seldom falling to the lowest rate, and rarely exceeding £150. Mr Scoresby reckons the price in the five years ending 1818 at £90; while at July 1830, it was stated from the different ports to be from £160 to £180. This is for what is called the *size*-bone, or such pieces as measure six feet or upwards in length; those below this standard are usually sold at half-price. It may appear singular that whalebone should rise while oil has been so decidedly lowered; but the one change, it is obvious, causes the other. Oil, being the main product of the fishery, regulates its extent, which being diminished by the low price, the quantity of whalebone is lessened, while the demand for it continuing as great as before the value consequently rises.

The whale-fishery, for one ship and one season, is a complete lottery, the result of which, according to the skill and good fortune of the persons employed, fluctuates between a large profit and a severe loss. Sometimes a vessel is so unlucky as to return

lean; another brings only one fish; while no fewer han eight or nine, producing about ninety tuns f oil, are necessary to make an average voyage. ut there are many instances of a much larger pro- uce. The greatest cargo ever known by Scoresby have been brought from the northern seas was at of Captain Souter, of the Resolution of Peter- ead, in 1814. It consisted of forty-four whales, ielding 299 tuns of oil, which, even at the reduced te of £32, sold for £9568, raised by the whale- one and bounty to about £11,000. In 1813, both e elder and younger Mr Scoresby brought car- oes, less in quantity, indeed, but which, from the il selling at £60 per tun, yielded a still greater turn. The former, in the course of twenty-eight oyages, killed 498 whales, whence were extracted 246 tuns of oil, the value of which and of the halebone exceeded £150,000; all drawn by him ut of the depths of the Northern Ocean.

The Dutch have published tables, exhibiting the sults of their fishery for the space of 107 years, etween 1669 and 1778,* both inclusive. During hat period they sent to Greenland 14,167 ships, of hich 561, or about four in the hundred, were lost. hey took 57,590 whales, yielding 3,105,596 quar- eelen† of oil, and 93,179,860 pounds of bone, which ielded a value of £18,631,292.‡ The expense f fitting out the ships amounted to £11,879,619.

* The years 1672, 1673, and 1674, are not included, the war with rance having caused a suspension of the fishery.

† A quardeel of oil contains from 18 to 21 stekans, or from 77 to imperial standard gallons; and 100 Dutch pounds are equal to 09 lbs. avoirdupois nearly.

‡ In converting the Dutch estimates into English money, the *rin is valued at 20½d. sterling.*

Value of ships lost, £470,422. Expense of preparing the oil, bone, &c., £2,567,109. Total expenses, £14,917,150; leaving a profit of £3,714,142. The Davis' Strait fishery, between 1719 and 1778, employed 3161 vessels, of which 62 were lost. The produce was £4,288,235, which, deducting £3,410,987 of expenses, left a profit of £877,248. The Greenland fishery would thus have yielded a profit of about 25 per cent., and the Davis' Strait of about 26 per cent.; but it may be observed that the Dutch, in their estimate of expenses, have not included the original cost of the vessels. In the subsequent years, from 1785 down to 1794, the number of ships was reduced to sixty, and the trade is said to have been carried on with absolute loss.

The British fishery has lately yielded a produce and value much exceeding that of the Dutch even during the period of its greatest prosperity. In the five years ending with 1818, there were imported into England and Scotland 68,940 tuns of oil, and 3420 tons of whalebone; which, valuing the oil at £36, 10s., and the bone at £90, with £10,000 in skins, raised the entire produce to £2,834,110 sterling, or £566,822 per annum. The fishery of 1814, a year peculiarly fortunate, produced 1437 whales from Greenland, yielding 12,132 tuns of oil, which, even at the lower rate of £32, including the whalebone and bounty, and added to the produce from Davis' Strait, formed altogether a value of above £700,000.

The following has been furnished to us from an authentic source as the amount and value of the fishery of the year 1829:—

10,672 tuns* of oil at £25	£266,800
607½ tons whalebone at £180	109,350
	£376,150

In the Commercial Tables presented to the House of Commons in 1830, the entire proceeds of 1829 are stated at £428,591, 6s. 6d.; but this of course includes also the southern fishery. Of this amount there were exported to foreign countries, *oil* to the value of £73,749, 10s. 6d., and *whalebone* amounting to £40,666, 15s. 6d.; making in all £114,416, 6s. It may be mentioned that this trade is now carried on entirely without legislative encouragement, no bounty having been granted since the year 1824.

There has also been a somewhat singular change in the ports from which the fishery is chiefly carried on. In London were undertaken all the discoveries which led to its establishment; and for some time a complete monopoly was enjoyed by the great companies formed in that city. Even between the years 1780 and 1790, the metropolis sent out four times the number of vessels that sailed from any other port. It was observed, however, that her fishery was on the whole less fortunate than that of the new rivals which had sprung up; and her merchants were so much discouraged that, in Mr Scoresby's time, they equipped only seventeen or eighteen vessels. They have since almost entirely abandoned the trade, employing, in 1829 and 1830, not more than two ships. Hull early became a rival to London, having sent out

* It may be observed that, in all these statements, the measure employed is the tun of 252 old wine gallons, equal to 209 $\frac{8}{10}$ imperial *standard gallons*.

vessels at the very commencement of the fishery. Although checked at first by the monopoly of the great companies, as soon as the trade became free, she prosecuted it with distinguished success. In the end of the last century that town attained, and has ever since preserved, the character of the first whale-fishing port in Britain. Whitby engaged in this pursuit in 1753, and carried it on for some time with more than common fortune; but her operations have since been much limited. Liverpool, after embarking in the undertaking with spirit, has now entirely relinquished it. Meantime the eastern ports of Scotland have steadily carried on, and even extended their transactions, while those of the country at large were diminishing. The increase has been most remarkable at Peterhead; and indeed this town, as compared especially with London, must derive a great advantage from avoiding, both in the outward and homeward voyage, 600 miles of somewhat difficult navigation.

The following summary has been collected from Mr Scoresby's work, as the average quantity of shipping fitted out in the different ports for nine years ending with 1818; and the comparison of it with the number sent out in 1830 will show the present state of the trade:—

	Average of 1810-18.	1830.
ENGLAND,—Berwick	1½	1
Grimsby	1½	0
Hull	53½	23
Liverpool	1½	0
London	17⅝	2
Lynn	1½	0
Newcastle	4½	3
Whitby	8⅝	2
	91½	41

		Average of 1810-18.	1830.
SCOTLAND,—	Aberdeen	10⅝	10
	Banff	⅜	0
	Burntisland	0	1
	Dundee	7⅛	9
	Greenock	⅜	1
	Kirkcaldy	⅞	5
	Kirkwall	⅜	0
	Leith	8⅞	7
	Montrose	2⅞	4
	Peterhead	6⅜	13
		40⅛	50
	Total	131⅝	91

With feelings of deep regret we now proceed to arrate the events of the season of 1830, the most isastrous that ever occurred in the annals of Bri- ish fishery. Melancholy as the details are, they ossess a deep interest, and may afford useful les- ons to future navigators. We have, therefore, ta- en some pains to procure, from authentic sources uch materials as might enable us to exhibit, in a ull and connected view, the occurrences of this ca- amitous year. We consider ourselves particularly ortunate in having obtained narratives and jour- als, written by individuals who were present at the ifferent scenes of shipwreck; and these not only give full detail of the events, but forcibly represent the motions which the view of them excited. A variety f interesting particulars have also been received from ntelligent friends at the respective fishing-ports in eply to queries transmitted to them on the subject.

In tracing the causes of these dreadful disas- ers, it will be necessary to present a general view f the mode in which masses of ice are formed, nd the *positions they occupy* in that extensive

e the successive parts of which we give the
of Davis' Strait and Baffin's Bay. This
h not forming, as once supposed, a completely
— sed gulf, has yet no opening so wide as not
rally to interrupt the continuity of its long lines of
opposite coast. Ice of a certain description may occ
the greatest expanse of water; but every one knows
that it is formed most extensively, and of the most
compact texture, in bays and along steep shores, to
which it attaches itself, and whence it is precipi
tated in large masses into the waves. The wild
ing and generally elevated coast of Davis' Strait
and Baffin's Bay has always produced it in large
quantity and varied forms, among which those of
bergs and floes have been most conspicuous. The
land-ice, during the rigour of winter, remains fast
in an unbroken sheet, stretching many miles out
to sea. Under the warmth of spring and early
summer, numerous fragments are detached, which,
through the action of tides and currents, are floated
out into the ocean, and sometimes reach even low
latitudes on the shores of America. The greater portions, however, coming from the opposite coast,
meet in mid-channel, and unite into a compact and
continuous barrier, through which, till a very advanced period of the season, it is impossible for the
navigator to penetrate. Between this central body,
called the middle-ice, and that attached to the land,
there intervenes a narrow and precarious passage,
always incumbered with bergs and floes, and often
entirely closed up: yet through which the adventurous mariner can generally, in the course of two
or three months, wind his course into the higher
latitudes of Baffin's Bay.

Prior to the voyages of discovery by Ross and
rry, the range of operations had been limited to
e south-west fishery, and to that on the eastern
re as far as Horn Sound. These fields, how-
r, gradually shared the fate of those in the
enland Sea,—being, as it were, *fished out;* the
ales having learnt to take refuge from the de-
oying power of their assailants in some more dis-
t recesses of the Arctic Ocean. When it was
orted, therefore, by the officers employed in dis-
ery, that, on the north-western shores of Baffin's
y, fish had been seen in vast numbers resting on
e bosom of the deep, without fear of the approach
man, the spirit of enterprise was kindled, and suc-
s soon crowned its efforts. Since that period, not
ly the Greenland Seas have been nearly deserted,
t the original fishing-grounds in Labrador and
vis' Strait have been regarded only as passing and
ondary objects; while every nerve has been strain-
to reach those interior shores, where whales are
ll found in an abundance elsewhere unexampled.
To reach this more remote and important station,
e captains might proceed along either of the op-
site coasts of that great inland sea. The *western*
ght appear at first sight the more eligible one,
ding most directly to the object, and avoiding that
iddle barrier which is so peculiarly formidable.
is coast, however, is exposed to the great body
ice, which, at the beginning of the season, floats
wn from the north, rendering the navigation
lious and dangerous. Hence the usual practice
s been slowly to work their way up the eastern
ssage till they turn Cape York; beyond which the
a becomes *much narrower, the* middle barrier of ice
ally terminates, and an opening is found stretch-

ing to the western shore. Before reaching Cap
however, after passing that formidable roc
montory called the Devil's Thumb, they m
the spacious expanse of Melville Bay, l
on the north by a bold and lofty shore,
with perpetual ice and snow. Here those
occur which have proved fatal to so many
tors. When a strong wind from the sou
blows over this range of sea, it loosens the gr
rier of central ice, and drives its severed fr
directly into Melville Bay. Arrested by
northern boundary, these are crowded togeth
tossed with a violent commotion, which invo
mariner in the most deadly peril. This bay,
ingly, was almost exclusively the scene of t
lamitous shipwrecks which are now to be re

Most of the vessels destined for the fisher
between the middle and end of March; but,
a somewhat tedious voyage out, they did n
the entrance of Davis' Strait till the close o
This delay, chiefly occasioned by the preva
adverse winds attended with rain, also pr
many of them from crossing over to Labrad
attempting the south-west fishery. They p
ed, therefore, directly "up the country,"
term it; that is, northward along the eastern
the strait. The sea being remarkably open, a
few whales appearing to attract their attenti
made an uncommonly rapid run. To the
ward of Disco Island, indeed, they were det
week by the ice; yet, even there, an unusua
of open sea was observed to the westward
ingly in consequence of the strong and co
south-westerly gales, which had in a great m
broken up the central barrier, and driven its

ments into a more northerly quarter. We
een informed, indeed, that several vessels
n attempt to cross the strait in this latitude,
without success. Slowly working upwards,
ips at last reached the opening of Melville
here, on the 10th of June, about a month
the usual period, upwards of fifty sail were
led. The bay, however, presented a most
able aspect; being crowded with fields and
ice that had been driven in by the south-west-
inds, and were arrested by the high and rug-
rier of the northern shore. If, however, they
by any means reach the western boundary of
ay, they might hope to find an open sea,
directly to the great fishing-ground. With
mpatience, therefore, they looked around for
anals by which they might proceed; but
w only a few lanes of water, forming nar-
d dangerous defiles through these icy barriers.
maxim, however, that the ship which first
s the open water is sure of a good fishing;
an eager emulation is excited, and, as our
ead correspondent observes, "when one begins
through, all the rest follow." The St An-
f Aberdeen first entered one of these openings
appeared the most promising; twenty-two
followed, and the remaining vessels were
pressing onward, when, fortunately for them,
asses of ice closed together and shut them
arring, at the same time, the return of the
hat had entered. These last, separating into
, took different directions, and made various
s of progress; a few even came in sight of
en water; *but all* were finally arrested, and
d in by the closing masses of ice.

One of the largest of these squadrons, and whose eventful story we can relate in the greatest tail, consisted of six very fine vessels, the St And of Aberdeen, the Baffin and the Rattler of Leith, Eliza Swan of Montrose, the Achilles of Dun and the French ship Ville de Dieppe. They be by making themselves fast to some icebergs, but quitted these in order to attempt a passage in di ent directions. On the 19th a fresh gale sprung from the S.S.W., and drove in upon them mass ice, by which they were soon beset, in lat. 75° 10′ long. 60° 30′ W., about forty miles to the south of Cape York. They ranged themselves under shelter of a large and rugged floe, having water bu sufficient to float them. Here they formed a majo line behind each other, standing stem to stern so c as to afford a continued walk along the whole lin their decks; being at the same time so pressed aga the ice that in some places a boat-hook could w difficulty be inserted in the interval. In the even of the 24th the sky darkened, the gale increa the floes began to overlap each other, and press u the ships in an alarming manner. The sailors attempted to saw the ice into a sort of dock, w they hoped to be relieved from this severe press but soon a huge floe was driven upon them wi violence completely irresistible. The Eliza S (whose surgeon, Mr Maccall, has also furnished with some particulars) received the first shock, was saved only by the floe raising her up. It cau her indeed to strike with such force on the bow of St Andrew that her mizzen-mast was nearly cut off,—but it then passed from under her, after dam ing severely her stem and keel. It next struck the Andrew, midship, breaking about twenty of her t

and staving a number of casks; but it then for-
ely moved along her side, and went off by the
Now, however, pursuing its career, it reached
sively the Baffin, the Achilles, the Ville de
e, and the Rattler, and dashed against them
such tremendous fury that these four noble
s, completely equipped and fortified, and which
raved for years the tempests of the Polar deep,
in a quarter of an hour converted into shatter-
gments. The scene was awful,—the grinding
of the ice tearing open their sides; the masts
ing off and falling in every direction; amid the
of two hundred sailors leaping upon the frozen
e, with only such portions of their wardrobe as
could snatch in a single instant. The Rattler
d to have become the most complete wreck al-
ever known. She was literally turned inside
and her stem and stern carried to the distance
unshot from each other. The Achilles had her
nearly pressed together, her stern thrust out,
cks and beams broken into innumerable pieces.
Ville de Dieppe, a very beautiful vessel, though
filled with water, stood upright for a fort-
, and the greater part of her provisions and
were saved; as were also some of those of the
, two of whose boats were squeezed to pieces.
e other boats were dragged out upon the ice,
ere claimed by the sailors as their only home.
r from the same spot, the Progress of Hull
rushed to atoms by an iceberg on the 2d of
and on the 18th of the same month the Oxen-
also of that port, became a total wreck.
Resolution (Philip) of Peterhead, Laurel of
Letitia and Princess of Wales of Aberdeen,
vanced considerably farther to the north-

west, being in lat. 75° 20′ N., long. 62° 30
They were lying side by side, and, having c
a dock in the ice, considered themselves pe
secure. But the gale of the 25th drove th
upon them with such fury that the sides of t
solution and Letitia were pierced; they wer
with water to the deck, and pressed so forcibly
the Laurel, which lay between them, as al
raise that vessel out of the water. This las
ever, remained for the present in safety, and
men busied themselves placing on board of
provisions and stores of her two wrecked com
But, on the 2d of July, she, along with th
of Peterhead, was exposed to a gale if possi
more terrible than the former, when th
shared the disastrous fate of the Resolution
titia. The Hope, which was standing in th
clear and secure, was overwhelmed with suc
dity that in ten minutes only the point of he
top-gallant-mast was seen above the ice.

The tempest, on the 26th June, assailed
Spencer and the Lee, which had penetrated
north than any of the other vessels, having
even the latitude of 76°. The Lee escape
only a number of her timbers shattered; t
Spencer, after a long and vigorous resistan
her hold burst open and filled with ice and
so that she soon became a complete wreck.
ficient warning, however, had been given to
the sailors to lodge on the ice their most v
effects. In this vicinity the William and
Whitby, and the Dordon of Hull, were al
at the same moment. The latter, fortunatel
raised up by the pressure of the ice into a sa
tion; but the William and Ann, being pl

pposite floes, was crushed to pieces so ra-
at nothing could be saved out of her; and a
to which the captain had thrown a few ar-
m the cabin-windows, was itself soon after-
nk. In the same latitude, a few miles to
ward, the tempest proved also fatal to the
dleton of Aberdeen.
ilar disaster befell part of a large group
ng to twenty-two sail, which had not en-
icy barrier, but remained considerably to
ward in about lat. 74° 20′ N. They seem
o have felt the storm of the 25th June, and
in tolerable safety, though beset, till the
the 30th. A heavy gale then sprung up,
eased continually till the morning of 2d
en it swelled to a dreadful tempest. The
of the wind, the showers of hail and snow,
and fearful aspect of the sky, gave warning
ching danger. At seven in the morning a
distress was hoisted by the William of
d in a short time thereafter she appeared
ried under masses of ice. About ten the
iton was reduced to a complete wreck; and
the Gilder shared the same fate. During
the storm slightly abated, but then re-
ith augmented fury, and pressed the ice
itional force upon the Alexander of Aber-
the Three Brothers of Dundee,—two large
vessels, so strongly built and equipped that
er might have supposed them capable of
ling any shock whatever. They made ac-
a very stout resistance; the conflict was
and was beheld with awful interest by the
they stood round: at length their timbers
at every point,—the sides bursting open,

the masts crashing and falling with a frightful noise; the hull of the Three Brothers was crushed so that the two ends of the ship could scarcely be distinguished: finally, only some broken masts and booms appeared above the ice. The crews, spectators of this awful scene, gave three cheers in honour of the gallant resistance made by their vessels to the overpowering element by which they had been vanquished. Our correspondent here observes,—somewhat as Captain Parry had already done at a critical period,—that a ship, the strongest which human art can construct, becomes like an egg-shell when opposed to the full force of this terrific natural agent.*

It is a remarkable and gratifying circumstance that, in the whole of these sudden and dreadful disasters, there should not have occurred the loss of a single life. The very element, indeed, which destroyed the vessels, was in so far propitious, as it afforded to the crews a secure though uncomfortable retreat. By leaping out upon the ice in the moment of wreck, they all effected their escape. Yet we have heard of several instances in which the danger was close and imminent. Sometimes the seamen, before they could snatch their clothes and bedding, found themselves up to the middle in water. The surgeon of the North Briton beheld the ice rushing in and meeting from opposite quarters in the cabin, before he was able to make his retreat.

The shipwrecked mariners, nearly a thousand in number, were now obliged to establish temporary abodes on the surface of that rough and frozen

* The shipwreck of these vessels is well represented in a lithographic print, from a drawing by Mr Laing, surgeon to the Zephyr of Hull. To this gentleman, as well as to Mr Alexander, surgeon to the Three Brothers of Dundee, we have to acknowledge ourselves indebted for some useful information.

sea where their ships had been wrecked. They erected tents of sails detached from the broken masts; they kindled fires, and procured provisions, either out of their own shattered vessels, or from those of their companions which had fortunately escaped. But still their situation, though not desperate, was dreary in the extreme; like outcasts in the most desolate extremity of the earth, without any assured means either of subsistence or return. Yet such is the elastic spirit of British tars that, as soon as the first shock was over, they began with one consent to enjoy themselves, exulting in the idea of being their own masters. Finding access, unfortunately, to considerable stores of wine and spirits, they began a course of too liberal indulgence. The rugged surface of the Arctic deep was transformed into a gay scene of festivity. The clusters of tents with which it was covered, the various scenes of ludicrous frolic, the joyous shouting of the British sailors, and the dances and songs of the French, suggested the idea of a large fair; some even gave it the name of Baffin Fair. The Frenchmen are said to have declared that they had never been so happy in their whole lives. Excursions of considerable extent were made over the ice from one party to another; a communication was even opened between the northern and southern detachments of the fleet, and so regularly carried on as to be called by the latter the "north mail."

A few days after the different shipwrecks, the seamen, in almost every instance, proceeded to a very extraordinary operation,—that of setting fire to the vessels, and burning them down to the water's edge. *The object was, that,* when the upper surface of the ship was thus removed, the casks and

chests containing the clothes and provisions might float up, and become available for the service of the men. A sailor, who witnessed this operation with the four first wrecks, described it as having completely answered its purpose. Others deprecated the practice as causing a very wanton destruction of property, which might have been preserved for the use, at least, of other crews. The ships were for some time borne up on the surface by the ice on which they rested. When it was melted, they sunk and disappeared, and the waves were then strewed with floating fragments of every shape and size,—blocks, chests, casks, ropes, shattered pieces of masts and yards, and timber of all forms and dimensions.

We have already noticed the pleasing circumstance that, in the first awful catastrophe of the vessels, there was not a single life lost. But we must add that a few died afterwards in consequence of fatigue and exposure to cold. Several also perished in excursions over the ice, particularly in one undertaken by the captains of the Laurel, Letitia, and Progress. Not finding sufficient room in the Bon Accord, where the shipwrecked crews had been received, they departed in search of some other vessel which might have more accommodation. The three captains carried merely their clothes, and after travelling a direct distance of twenty miles, much increased by the circuitous track they were obliged to follow, they reached the ships Dee and Mary Frances, into which they were kindly received. But the seamen imprudently incumbered themselves with a boat, which they had frequently to drag over the ice: they thus spent a much longer period, and exposed themselves to such severe cold that five of them died; while others, reduced to

a most distressing state, were recovered only by the extreme care with which they were treated. With regret we must subjoin, that many of the deaths appear to have arisen from the too free use of intoxicating liquors. A certain portion, indeed, was rendered necessary by fatigue and cold; but that portion was greatly exceeded; and in passing over the icy surface, which was at once very rugged, and filled with various holes and crevices, several plunged in to rise no more. One man expired of mere intoxication. Yet it is satisfactory to add, amid these irregularities as well as the thoughtless gayety which every where prevailed, that, whenever the exertions of the sailors were required for the general service, the utmost activity was manifested, and complete subordination observed.

After these disasters, the ships remained still closely beset, and their situation became the subject of a daily-increasing anxiety. They had gone out wholly unprovided for wintering in the Arctic zone; while the extensive loss of provisions and fuel, with the numerous crews crowded on board the ships, rendered the prospect still more gloomy and doubtful. On the 21st July, in consequence of some favourable appearances, the St Andrew, Eliza Swan, and other ships on the northern station, determined to attempt penetrating to the westward. The men, though quitting the scene of gayety which they had formed for themselves, obeyed the summons with much alacrity. In a few minutes the tents were struck, the crews of the wrecked ships were distributed among the surviving ones, and all hands began towing forward the vessels. They *separated in various* directions; but some, *being driven considerably to* the northward, were so

[illegible] of bananas, a barrel of [illegible], a [illegible] of rum, a cask of water, [illegible] a hatchet and knife, compass, a spy-glass, cutlass, two muskets and several other articles. They steered the same course that night five or six miles over the ocean, in the hope of the sailors going [illegible] to assist them. Next morning at day-break a hurricane came on from the north-west, wherefore they resolved to return to the ship, which was still in view. Accordingly, the mate, surgeon, and one of the men walked back on the beach within a mile and a quarter of the place where the men were hauling seines in their company the night before. But at this instant was taken, almost by the astonished crew a person descending from the main-mast. Observing the irremediable change in the weather was opening all around, they immediately hastened back, but not their superfluous [illegible] provisions together with a musket and [illegible] which it proved impossible to launch the boat, with the intention of dragging her back to the ship. Unfortunately, during the absence of the mate and surgeon, the crew had made too free with the spirits, and were so intoxicated as to refuse their assistance. [illegible] they both returned, accompanied by the boat, to within a mile of the John. It was now about three o'clock in the afternoon,—the sea was completely [illegible] all around her,—the sails were set, and she was preparing to get under way. On finding that things remained, they were still disappointed by those on board, the mate and his companions [illegible] turned back to their boat; which, with the assistance of the crew, they dragged over the sea, and made every exertion to reach the ship.

[illegible] reached to the utmost, they pulled

middle of September approach, was struck with the deepest dismay at the prospect of spending the winter in this desolate region, with thirteen men besides the crew, and the stock of provisions and fuel rapidly diminishing. He therefore determined to set out on the afternoon of the sixteenth in a boat, accompanied by the surgeon and eleven of the crew, in the hope of being able to reach some one of the Danish settlements,—it having been previously arranged that the rest of the men, amounting to 49, should follow next morning in four other boats. Towards evening, however, those who remained in the ship observed a certain movement of the ice, of which they resolved to take advantage; and a breeze springing up from the north, they found themselves on the 18th, after great exertion, in tolerably clear water; but being without officers, they were obliged to steer with caution, and only during the day. Emboldened by several days of successful navigation, they imprudently sailed on the night of the 24th. The watch on deck saw a line of breakers; but the sailors, imagining them to be caused by a stream of ice, continued their course. In a few minutes the ship struck on the shore. The John was a vessel of very great strength, built of teak timber, and upwards of 100 years old. She continued beating without intermission for two hours before a leak was sprung; but then she went rapidly, and before morning was completely a wreck. The crew at that juncture fortunately discovered two sails in the distance, which proved to be the Swan and Duncombe of Hull, on board of which they were received and conveyed home.

The mate and his companions left the vessel, as has been mentioned, about three o'clock in the afternoon of the 16th September. They took with them

in the boat about seven cwt. of biscuits, a barrel of pork, seven or eight gallons of rum, a cask of water, the captain's charts, a ship and boat compass, a spy-glass, quadrant, two log-glasses, and several other articles. They dragged the boat that night five or six miles over the ice; two of the sailors going a short way to assist them. Next morning at day-break a favourable wind arose from the north-ward, whereupon they resolved to return to the John, which was still in view. Accordingly, the mate, surgeon, and one of the men walked back on the ice till within a mile and a quarter of the place where she lay, and hoisted signals to their companions on board. But of these no notice was taken, although they distinctly saw a person descending from the mast-head. Observing the favourable change in the ice, which was opening all around, they immediately hastened back, put out their superfluous clothes and provisions, together with a musket and some powder and shot, in order to lighten the boat, with the intention of dragging her back to the ship. Unfortunately, during the absence of the mate and surgeon, the crew had made too free with the spirits, and were so disorderly as to refuse their assistance. Perceiving this, they both returned, accompanied by one of the men, to within a mile of the John. It was now about three o'clock in the afternoon,—the ice had completely given way all around her,—the sails were set, and she was preparing to get under way. Finding that, though observed, they were still disregarded by those on board, the mate and his companions once more hurried back to their boat; which, with the assistance of the crew, they dragged over the ice, and made every exertion to reach the ship.

With energies excited to the utmost, they pulled

vigorously to get on board; but, notwithstanding their most strenuous efforts, they could not approach nearer than three miles. She was now in full sail, and kept scudding on till at last she disappeared from their anxious looks; and they never saw her more. Finding it vain to proceed, they rested that night on the ice. One of the crew persevered, urged by the deceitful hope of being able to reach the vessel; but, night coming on, it is presumed that he perished, as he did not return. Four more set off to endeavour to find the clothes and provisions which they had left on the ice in the morning, with the boat's flag placed over them to attract the eye. These men must also have shared the fate of the other; for the whole of next day was spent by their companions in wandering over the ice in search of them, as well as of the clothing and food, so necessary to their future comfort; but no traces of either could be found. There were now eight individuals remaining, with no other covering but their ordinary clothes to shelter them from the inclemency of a piercing climate. Half a cwt. of biscuit, seven or eight pieces of pork of eight lbs. each, with some rum, and a cask of water, constituted their whole store of provisions. The only resource that now presented itself was to steer for the first settlement to the southward; and accordingly, about four P. M., they began to launch and drag the boat alternately over the ice. After incredible exertion during two hours, they got into open water, and sailed along till eight o'clock, when, coming again in contact with a solid field, they drew up their bark for the night. Next morning at daybreak they started amid floating pieces of ice. During this day they made *considerable* progress; and the breeze *from the northward being* moderate, they continued

the run all night. The following day they pursued their course; but the ice so much obstructed their progress that an hour was often consumed in proceeding a single mile. On the 22d, the mate, from an observation of the sun, ascertained that during the four preceding days they had only advanced forty miles to the southward. From the 22d to the 25th, the sea being tolerably clear, they made considerable way; on the 24th, however, they narrowly escaped destruction from the falling of an iceberg above 100 feet high, from which they had got clear only about ten minutes, when it split with a noise like thunder, and spread the fragments all around. On the evening of the 25th, they hauled up on Baffin's Island to procure fresh-water, but could find none. They were therefore obliged to light a fire and melt the ice found on the land. By this time the sufferings of the crew had become very great. From the unremitting exertion of pulling and dragging the boat,—from the almost total want of sleep,—from the extreme intensity of the cold, and scanty supply of food,—a single biscuit and slice of pork forming the daily allowance of each,—it appeared evident that they could not bear up much longer.

Frequently, in pulling the boat over the ice,—which was formed of large pieces jammed together, but in some places not closely,—the men plunged into the water, and got completely wet; while they had no other means of drying themselves than by stripping off their clothes and wringing them. This, under so intense a cold, had benumbed their limbs to such a degree, that they became quite blue and insensible, and in some cases were proceeding fast to a state of mortification. On the morning of the 26th they left Baffin's Island; the wind had

quite smooth,—they pulled
ht, landing on a sm ll island,
l filled their cask. They
et their watch for the night.
ew went to sleep, and four
lieving each other every two
hey rowed or sailed all day.
It was now the eleventh
the vessel, and finding their
ng from so long a period of
ivation,—having sailed up-
they began to look anxiously
an habitation along the coast.
lock at night, with feelings of
escribed, they spied a light on
e directly towards it, and on
nded a horn to announce their
nts of this lone settlement. In
y of Esquimaux men and wo-
se number of dogs, made their
riners eagerly inquired if there
ny "Danski," meaning Danes;
e them to understand that there
l them to land. The boat having
re, the mate was introduced to
e small Danish colony, which is
. Fortunately one of the set-
en in the British service, could
d he acted as interpreter. The
his people received the strangers
immediately provided them with
n hearing the detail of their mis-
request to be permitted to remain
recover their fatigues, he readily
e mate and su vided

with an apartment and bed in the governor's hou and the seamen were accommodated with shelter the huts. Provisions were allowed them for ei days, until they should make up their minds whet to stay there during the winter, or endeavour to p ceed farther to the southward. At the end of that riod the mate, on consulting with the crew, thou it advisable to remain in their present quarters. this the Dane very readily consented. In sevent days after their arrival, one man died in conseque of fatigue; another lost one of his feet from mortifi tion, together with the toes of the other foot. The of the crew gradually recovered their strength, s continued healthy during their stay at the settleme

The establishment of Operniwick, situated o bleak and solitary shore of Baffin's Bay, consists the governor's house, which is built of wood and c tains two apartments, and of three huts constructe alternate layers of stone and turf. The inhabita were,—the governor, who is a Dane of about thi years of age, with his wife, of half-Danish half-E quimaux descent, and three children; of five oth of the same nation, three of whom are married Esquimaux women, and who have also children, a one unmarried Esquimaux female. At the time mate and boat's crew arrived at Operniwick, a pa of nine strangers were on a visit to the colony.

The trade of the settlers consists in procuri skins of various kinds, blubber, feathers, and tusks of the narwal, from the natives. These deposited in a large storehouse until the arrival o vessel from Denmark, which comes out annually the month of August, and brings clothing, provisio ammunition, and other necessaries, in exchan With the exception of this yearly visit, and the

ional calls of a few wandering tribes of Esquimaux, he settlers pass a life lonely and secluded in the xtreme. An inspector, who marries and baptizes, ometimes accompanies the Danish vessel from Disco sland; but, when necessary, the governor is empowered to perform these ceremonies in his absence.

The principal employment of Mr Inglis and his companions, during the eight dreary months spent in the Arctic circle, was to assist the Danes in the daily labour of fishing for seals, which are caught in the following manner:—

At the particular places where these animals resort, a hole is cut in the ice about three feet in diameter, and nine feet from a corresponding opening near the shore. At the distance of nine feet farther out a similar hole is cut, in a line with the others. A strong net is then put down into the middle hole, and by means of a rope at each end, which is pushed under the ice with a pole through to the outer and inner hole, it is extended under water; and, being thus set, is left over-night. The seals get entangled in the meshes of the net, and are usually found dead next morning, when they are dragged up and carried home.

At those seasons when the sea is open, nets are stretched from one little island to another for entangling the small white-whale. Bears and foxes are shot in the neighbourhood of the colony: ducks are found in abundance. There were also observed white hares and a few ptarmigans.

For a period of ninety days the sun was never seen above the horizon,—the heavens were generally clear, and often irradiated in a beautiful manner by the Aurora Borealis.

With regard to provisions, their chief fare consisted *of soup made of* peas and barley, boiled seal's

flesh and blubber, with a small occasional allowance of stockfish, beef and pork, or bear's flesh,—which latter was a rare, and considered to be a delicate dish. The surgeon and mate were indulged with very weak tea, not always sugared, to breakfast: coarse rusks, salt butter, and a glass of brandy, were allowed to all. They were also furnished with a complete suit of Esquimaux dresses, made by the women of the colony. The Danes were extremely indolent, and spent the greater part of their time in smoking and sleeping: they were also exceedingly dirty. The women skinned the seals and prepared the blubber, and indeed performed all the most laborious offices.

The governor from his childhood had been brought up at one of the Danish settlements on the coast, his father having preceded him in the appointment which he holds. He is an intelligent man, appears to have been well educated, has a good library, and employed his time in writing and reading. The framework of his house had been prepared in Denmark, and with the furniture, which was tolerably comfortable, had been sent from that country. Some drift-wood was occasionally collected, which, with a supply sent from Europe, afforded materials for fuel and other purposes. Not even a shrub was to be seen in the neighbourhood; and nothing could present a more desolate aspect than the barren range of rocky mountain and valley. No religious observances were noticed among the Danes or natives, except on Christmas-day, when the governor assembled his people for devotional purposes; but the strangers, from a feeling of delicacy, did not obtrude themselves.

As the spring advanced, the snow gradually melted, and the scanty vegetation of the country began to appear. Under the snow which covered the hills

found, in considerable abundance, small ber-
robably the crow or whortle berry), which
ighly relished by the sailors, so long confined
mal food by no means of the best description.
the 21st May 1831, the mate, supposing that
this time the British vessels would have ar-
on the coast, resolved once more to brave the
Having been kindly furnished with a month's
ions by the governor, they took leave of their
able entertainers, and embarked in their boat,
g behind the seaman who had lost his limb, and
as consequently unfit to undergo farther hard-
They sailed southward to Waygatz Island,
they arrived on the 23d at mid-day. In their
e they met with several English whalers, from
they received provisions and clothing. They
ed, in proceeding farther south, to fall in with
Danish vessel homeward bound; but finding
vigation, in consequence of the ice, more diffi-
an they had anticipated, and becoming again
sted with fatigue, they resolved to go on board
st British ship they should meet.
y were accordingly taken on board sundry
s. Mr Inglis was engaged as mate of the
lship of Dundee, the corresponding officer of
hip having died on the voyage out. Mr
as Weir engaged in the Comet of Hull as
n: the remainder of the men were disposed
ng the other vessels.†

s invalid was to be sent home with the Danish vessel which
colony a visit in the autumn.
are indebted to the very intelligent mate of the John, Mr
Inglis, a native of Prestonpans, for the particulars of the
arrative of the preservation of the boat's crew. Mr Inglis
home *with him a document* which he received from the go-
ontaining an account of the supplies of provisions, clothes,
articles, furnished to himself and companions. The paper

The feelings excited at home by the intelligence of these unparalleled misfortunes may be more easily conceived than described. The appearance, each successive year, at the great ports, of the first vessel returning from the fishery, is, in all cases, a moment of deep interest and anxiety; and this season, in consequence of the long delay, these feelings had been wound up to an intense pitch. The tidings were brought to Peterhead, on the 8th October, by the James, Captain Hogg; and to Hull, on the 10th, by the Abram, Captain Jackson. Our correspondents describe, in the strongest terms, the universal gloom that overcast these towns; the eager throng which besieged the houses of the captains, and every place where information could be hoped for; as also the alarm of the females making hasty inquiries after their brothers and husbands, to which only doubtful answers could be returned. It was a scene of public and general calamity. The news being conveyed to Aberdeen by the next day's mail, spread equal consternation in that city. A subscription was opened at Hull on behalf of the seamen, many of whom were exposed to great distress, in consequence of their pay having been stopped from the period at which the wreck of their vessels took place.

The following list contains the entire number of ships which were lost in this disastrous year:—

		Tons.
ABERDEEN, 4.—	Alexander	252
	Letitia	318
	Old Middleton	329
	Princess of Wales	308
HULL, 6.—	Gilder	360
	Laurel	321
	North Briton	262

is in Danish; and contains, amid a long list of articles, several curious items, such as, among the eatables, five barrels of seal's blubber. It is subscribed by the governor, S. M. Cortzen.

		Tons.
HULL,	Oxenhope	286
	Progress	307
	William	350
LEITH, 2	Baffin	321
	Rattler	348
DUNDEE, 2	Achilles	367
	Three Brothers	339
PETERHEAD, 2	Hope	251
	Resolution (Philip)	400
WHITBY, 1	William and Ann	362
MONTROSE, 1	Spencer	340
GREENOCK, 1	John	316
DIEPPE, 1	Ville de Dieppe	400

The amount of the loss occasioned by these shipwrecks is estimated as follows:—

Value of 19 British ships, including stores, &c., average £5000	£95,000
Value of outfit, provisions, and wages, £2000	38,000
Twelve damaged; repairs of each cost on an average £800	9,600
	£142,600

A still severer loss was sustained in the great failure of the produce, very imperfectly compensated by a rise of the oil and whalebone to more than double the former price. The value of the fishery of 1829, as elsewhere stated, is reckoned at £376,150. The following is the highest estimate received in regard to 1830:—

2305 tuns oil, at £50	£110,250
119 tons 5 cwt. whalebone, at £380	45,315
	£155,565

But it is to be observed, that at Hull the oil is only returned at £48, and the whalebone at £320. These prices were given at the beginning of January 1831, and after that time they somewhat declined.

We are enabled, by our friends at Hull and Aberdeen, to comprise in the following table a complete view *of the fortune which* befell each ship employed *this year at the fishery* in Davis' Strait:—

SHIPS' NAMES.	Tonnage.	No. of Fish.	Tuns of Oil.	Quantity of Bone. Tons.	Cwts.
HULL,—33.					
Abram, *Jackson*	319	3	44	2	10
Alfred, *Brass*	322	5	80	4	10
Andrew Marvel, *Orton*	377	Clean	—	—	—
Ariel, *Rogers*	340	Clean	—	—	—
Brunswick, *Blyth*	357	6	89	4	13
Comet, *Woodall*	311	1	13	—	13
Cumbrian, *Munroe*	374	Clean	—	—	—
Dordon, *Linskill*	285	Clean	—	—	—
Duncombe, *Scoffin*	275	Clean	—	—	—
Eagle, *Wright*	289	7	54	3	15
Ellison, *Jackson*	360	6	81	4	15
Everthorpe, *Johnston*	351	8	116	6	3
Gilder, *M'Kenzie*	360	Lost in	the ice	—	—
Harmony, *Bramham*	364	2	38	2	4
Harmony, *Parker*	300	Clean	—	—	—
Ingria, *Wilson*	316	6	106	5	10
Isabella, *Humphrey*	374	5	94	4	14
Jane, *Maddison*	359	5	91	4	10
Kiero, *Martin*	362	3	20	1	15
Kirkella, *Carlill*	410	2	29	1	10
Laurel, *Manger*	321	Lost in	the ice	—	—
Lee, *Lee*	363	9	127	6	8
Lord Wellington, *Harrison*	354	1	5	—	14
Mary Frances, *Coldray*	385	Clean	—	—	—
North Briton, *Story*	262	Lost in	the ice	—	—
Oxenhope, *M'Intosh*	286	Lost in	the ice	—	—
Progress, *Dannatt*	307	Lost in	the ice	—	—
Swan, *Dring*	320	Clean	—	—	—
Venerable, *Bennet*	328	5	106	4	18
Volunteer, *Markham*	305	1	12	—	12
William, *North*	350	Lost in	the ice	—	—
William Torr, *Dannatt*	281	5	80	4	8
Zephyr, *Ash*	342	5	76	4	12
	11,009	85	1261	68	14
LONDON,—2.					
Margaret, *Flet*	351	Clean	—	—	—
Neptune, *Wallace*	291	Clean	—	—	—
	642				
WHITBY,—2.					
Phœnix, *Mills*	324	4	40	2	15
William and Ann, *Terry*	362	Lost in	the ice	—	—
	686	4	40	2	15

SHIPS' NAMES.	Tonnage.	No. of Fish.	Tuns of Oil.	Quantity of Bone. Tons.	Cwts.
WCASTLE,—3.					
ner.....	373	5	88	4	12
Bay, *Warham*.....	340	4	69	3	10
, *Fleming*.....	390	3	38	2	3
	1103	12	195	10	5
ERWICK,—1.					
Harrison.....	310	3	33	1	11
RKCALDY,—5.					
Todd.....	373	8	106	5	15
, *Stewart*.....	319	Clean	—	—	—
, *Stodart*.....	336	1	13½	—	14
Watson.....	282	1	1½	—	1
ung.....	287	Clean	—	—	—
	1597	10	121	6	10
NTISLAND,—1.					
Davidson.....	280	1	14	—	15
EITH,—7.					
ith.....	321	Lost in	the ice	—	—
ll.....	345	1	13	—	13½
e, *Smith*.....	312	1	5	—	3½
Orange, *Guthrie*...	359	1	13	—	14
odart.....	348	Lost in	the ice	—	—
, *Liston*.....	354	1	21	1	4
nd Ann, *Smith*.....	383	Clean	—	—	—
	2427	4	52	2	15
ERDEEN,—10.					
, *Allan*.....	252	Lost in	the ice	—	—
rd, *Parker*.....	364	1	17	1	—
.....	319	Clean	—	—	—
Reid.....	252	1	11	—	11½
ark.....	318	Lost in	the ice	—	—
, *James*.....	298	Clean	—	—	—
, *Mills*.....	329	Lost in	the ice	—	—
Bruce.....	282	1	15	1	0½
f Wales, *Gray*.....	308	Lost in	the ice	—	—
rew, *Reed*.....	313	2	13	—	14
	3035	5	56	3	6

SHIPS' NAMES.	Tonnage.	No. of Fish.	Tuns of Oil.	Quantity of Bone. Tons.	Cwts
PETERHEAD,—13.					
Commerce, *Walker*	241	Clean	—	—	—
*Eclipse, *Penny*	267	2	18	—	15
Gleaner, *Shand*	262	6	74	4	2
Hannibal, *Birnie*	315	2	16	1	2
Hope, *Volum*	251	Lost in	the ice	—	—
James, *Hogg*	346	1	13	—	12
*Mary, *Stewart*	157	1	6	—	6
*Perseverance, *Ogston*	240	410 seals	5	—	—
Resolution, *Philip*	400	Lost in	the ice	—	—
Resolution, *Hogg*	291	1	10	—	8
Superior, *Manson*	306	2	23	1	10
Traveller, *Simpson*	400	7	110	5	16
*Union, *Mackie*	224	1	13	—	10
	3720	23	288	15	1
DUNDEE,—9.					
Achilles, *Thoms*	367	Lost in	the ice	—	—
Advice, *Deuchars*	324	1	15	—	15
Dorothy, *Davidson*	369	2	32	1	10
Fairy, *Welch*	247	3	31	1	16
Friendship, *Chapman*	304	1	4	0	3
Horn, *Stevenson*	370	1	12	—	13
Princess Charlotte, *Adamson*	357	Clean	—	—	—
Thomas, *Thoms*	356	3	21	1	3
Three Brothers, *Cameron*	339	Lost in	the ice	—	—
	3033	11	115	6	1
MONTROSE,—4.					
Eliza Swan, *Fulton*	306	Clean	—	—	—
London, *Burn*	345	Clean	—	—	—
Monarch, *Davidson*	311	3	30	1	12
Spencer, *Robertson*	340	Lost in	the ice	—	—
	1302	3	30	1	12
GREENOCK,—1.					
John, *Comb*	316	Lost			

87 Ships at Davis' Strait.
* 4 ——— Greenland.
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We have been also enabled, from authentic sources

he following tables and summary of the Bri-
ery during the last five years:—

SHIPS.	Tonnage.	Fish.	Oil. Tuns.	Bone. Tons.	Bone. Cwts.
1827.					
.....	9910	373	4581	260	0
by	977	27	332	18	2
astle	1103	38	619	34	10
ick	309	11	163	9	17
on	714	14	235	10	0
.....	2039	129½	1293	77	0
head	3737	159½	1418	72	17
deen	3574	145	1574	87	13
lee	3032	136	1495	83	0
caldy	1261	71	808	47	8
rose	1301	51	573	28	17
ock	316	7	90	3	16
	28,273	1162	13,186	733	0
1828.					
.....	9949	438	5297	316	5
by	1341	33	445	24	15
astle	1103	45	642	38	14
ick	309	14	184	10	3
on	714	4	65	3	0
.....	2039	115	1154	66	16
head	3978	88½	1243	66	0
deen	3322	135	1500	85	9
lee	3032	195½	1924	103	10
caldy	1261	64	759	45	18
rose	1301	47	556	30	10
ock	316	18	197	11	10
	28,665	1197	13,966	802	10
1829.					
.....	10,899	339	3982	235	19
by	1050	34	357	21	8
astle	1103	45	541	29	10
ick	309	11	147	8	16
on	714	2	32	2	3
head	3429	118	1445	78	16
deen	3322	84	1171	63	14
lee	3031	77	1005	54	9
rose	1301	39	481	27	11
caldy	1261	51	649	37	0
.....	2393	71	862	48	4
	28,812	871	10,672	607	10

1830.					
SHIPS.	Tonnage.	Fish.	Oil.	Bone.	
			Tuns.	Tons.	Cwts.
33, Hull	11,009	85	1261	68	14
2, Whitby	686	4	40	2	15
3, Newcastle	1103	12	195	10	5
1, Berwick	310	3	33	1	11
2, London	642	—	—	—	—
4, Montrose	1302	3	30	1	12
13, Peterhead	3720	23	288	15	1
10, Aberdeen	3035	5	56	3	6
9, Dundee	3033	11	115	6	1
5, Kirkcaldy	1597	10	121	6	10
1, Burntisland	280	1	14	0	15
7, Leith	2427	4	52	2	15
1, Greenock	316	—	—	—	—
91	29,460	161	2205	119	5

The year 1831 was, like the preceding, unfortunate, though not to an equal extent, nor with such instances of signal disaster. Most of the vessels sailed early in the season, and by the beginning of May had assembled on the south-west fishing-ground, along the coast of Labrador. Having been tolerably successful in this quarter in the former year, they employed a few weeks in fishing between Hudson's and Cumberland's Straits, while some proceeded to a still higher latitude; and by these exertions, fifty-nine whales were taken at this early period. This success did not divert them from making strenuous efforts, as soon as the weather appeared at all promising, to push to the northward, in order to reach the most advantageous stations. By the middle of June, the grand fleet was collected near Baffin's Islands, in about lat. 74°; but the captains, on ascending the highest peak, perceived with dismay that there was no prospect of a passage, there being an unbroken sheet of ice as far as the eye could reach. They

waited some time in vain for an opening; when, in the beginning of July, about fifty sail moved southward in hopes of getting across in lat. 71° or 72°, which had often previously been found practicable. It did not prove so, however, in the present instance, and they hastened back to the northern station; but what was their mortification to find, that during their absence an opening had taken place, through which all the other vessels had penetrated, and that the ice, having again closed, presented an insuperable bar against their farther progress! The fleet then separated into two squadrons, and attempted at different points to force their way through; but they were overtaken by a tremendous gale, in which many of the ships suffered severely, and the Neptune of London was totally wrecked. Thus baffled, they again sailed southward, and at length, about the end of August, effected a passage to the western coast. They could not, however, retrieve the loss of so large a part of the season, and returned with very deficient cargoes. Meanwhile the rest of the fleet made their way through the ice, and reached in good time the fine north-western station; though the hopes of a prosperous fishing, which they thought themselves entitled to cherish, were in general disappointed.

At the commencement of the season, some of the vessels had lighted upon good *patches*, and the Ulverstone of Leith took six whales in one day; but many waited long and anxiously without being able to discover a single fish. The captains of two vessels (the Isabella and Andrew Marvel of Hull), having instructions from their employers to proceed up Lancaster Sound, went as far as Prince Regent's Inlet; but they *encountered heavy gales*, and were entirely un-

successful. They did not, we are sorry to add, find the slightest trace of Captain Ross or his vessel of discovery. At length, by the beginning of October, the greater part of the ships began to move homeward; but a few, which remained longer, experienced, we understand, better fishing than at any preceding period of the season.

The fleets endured no calamities comparable to those of the former year; yet three vessels suffered entire shipwreck. The James of Peterhead, early in the season, after reaching the latitude of 72°, was crushed amid floes of ice. The Neptune of London, while endeavouring, as already mentioned, to penetrate through the northern barrier, being, on the 12th July, overtaken by tempest, went so rapidly to pieces, that in a few hours she had disappeared. The crew however escaped, with the exception of two, who perished, it is said, solely through intoxication and exposure to cold. In the beginning of September, the Rambler of Kirkcaldy, while fishing on the western shore, gave way so suddenly, that the mate and surgeon had to swim for their lives.

Though the general result of this year was unprosperous, the different vessels experienced a remarkable variety of fortune. Some were very successful, and few sustained a total failure. Of the Davis' Strait ships, the Hercules of London caught fourteen whales, which were landed at Aberdeen. The Ulverstone of Leith brought home thirteen; the Thomas of Dundee twelve. The others ranged variously from eleven down to one, and only two returned *clean*. The number of ships that sailed was 75 for Davis' Strait, and 12 for Greenland; in all 87. The entire produce was as follows:—

	Whales.	Tuns of oil.	Tons of whalebone.
From Davis' Strait..	330	4100	200
— Greenland	86*	700	30
	416	4800	230

The value of the above at the current prices may be thus estimated:—

4800 tuns oil, at £30	£144,000
230 tons whalebone, at £200	46,000
	£190,000

From the above statement it will appear, that the produce in oil of 1831, though more than double the amount of 1830, is not half that of 1829, which itself did not equal the average of 1827 and 1828.

* With 4100 seals.

CHAPTER X.

Arctic Geology.

North Cape—Cherie Island, with its Secondary Sandstones, Coal, and Plutonian Rocks—Hope Island, and the Thousand Islands—Spitzbergen, its Mountain-scenery, its Primitive, Transition, Secondary, Tertiary, and Alluvial Rocks—Moffen Island, of recent Formation; Low Island, of Transition Formation; Walden Isle, of Primitive Rocks—Ross' Islet, the most northern known Land, composed of Granite-gneiss, with imbedded Precious Garnet—Remarks—Jan Mayen's Island, a Volcanic Island; Two Volcanoes described—Old Greenland—East Coast of Greenland, very wild and rugged—Werner Mountains 6000 Feet high; Rocks Primitive, Transition, Secondary, and Plutonian; Of the Secondary Rocks, the most important, as being intimately connected with the Antediluvian Climate of Greenland, are those of the Coal Formation, which Scoresby discovered, forming Jameson's Land—West Coast of Greenland, equally rugged and wild with the East Coast; Hot Spring there; the prevailing Rocks Primitive, containing rare and beautiful Simple Minerals; Transition Rocks seldom met with; Considerable Depositions of Secondary and Tertiary Rocks in some places—Barrow's Strait—Melville Island interesting to the Geologist, from its containing the old Coal Formation—Port Bowen—Islands and Countries bordering on Hudson's Bay examined and partly discovered by Captain Parry—Concluding Remarks.

THE Geology of Spitzbergen, of East or Old Greenland, and the countries examined and discovered by Ross, Parry, Scoresby, and Clavering, although as yet but imperfectly known, is far from being uninteresting. It exhibits the same series of rocks, and the same general arrangements, as occur in other countries, the geognostical structure of which has been thoroughly explored. The fossil organic remains

which, in all parts of the world, afford so much information in regard to the former condition of the climate, seas, animals, and vegetables of the globe, are not wanting in these remote and desolate regions; and, lastly, the Arctic geology has afforded to the mineralogist specimens of many of the rarer and of some of the more precious minerals and ores:—

1. *North Cape, Cherie Island, Hope Island, the Thousand Islands, Spitzbergen, and Ross' Islet.*

North Cape.—The great primitive land of Scandinavia continues onward to the extreme point of Norway; but in this high latitude some new formations make their appearance among the older. The *sandstone-quartz* of Alten has been known since the travels of the celebrated Baron Von Buch. On the east, towards the Russian dominions, there is a considerable tract which deviates more from the primitive formation than the sandstone-quartz of Alten does. *Sandstone* and *conglomerate* extend across the subjacent gneiss in a horizontal position. These evidently-secondary rocks probably belong to the old red sandstone formation of some authors. Hence, in Finmark we find ourselves on the edge of a great *secondary basin.*

Cherie Island.—The first land which rises above the level of the ocean in the Arctic Sea, beyond the North Cape, is the small Cherie Island (Bear Island), about ten miles long, in north latitude 74° 30′, long. 20° east, which is entirely composed of secondary rocks horizontally stratified, and cut perpendicularly on the coast into cliffs. The principal rocks are *sandstone* and *limestone,* in which veins of leadglance, or sulphuret of lead, sometimes containing *native silver,* occur. The limestone abounds *in shells in a fossil state*; but shells very

different from those that at present inhabit these northern seas: the sandstone contains a bed of *coal*, from two to four feet thick,—a fact subversive of that opinion which maintains that coal is wanting in Arctic countries. In Scoresby's drawing of Cherie Island three conical hills are represented; these, in all probability, are of igneous origin, probably secondary trap.

Hope Island, and the Thousand Islands.—Farther towards the north the depth of the sea is so inconsiderable and unvarying that, seamen, after seeing the horizontal strata of Cherie Island, conclude, that in their course northward, they sail first over the horizontal basis of Cherie Island, and next over strata which are visible in Hope Island and the Archipelago of the Thousand Islands. The strata visible in Hope Island and the Archipelago of the Thousand Islands are said to be of *blackish clay-slate*. *Hope Island*, situate on the south coast of Edge's Island, lies in N. lat. 76° 20′, and longitude 20° E. It is nine leagues long, but scarcely a mile broad, and lies N.E. by E., and S.W. by W. It consists of five mountains; the northernmost one is the highest; and those succeeding diminish gradually in size. The Thousand Islands is a large group of small isles interposed between Hope Island and the south coast of Edge's Island.

Spitzbergen.—This large island, although not the most northern known land, is nearly so. It lies between latitudes 76° 30′ and 80° 7′ N., and between the longitudes 9° and 22° E. On taking a general view of this island, the principal objects that strike the eye are numberless mountain-peaks, ridges, and precipices, rising immediately from the sea often to a height from 3000 to 4500 feet above the sea-level.

The various brown, green, and purple tints of the land, as seen from a distance, are strikingly contrasted with the snow-capped summits, ridges, and acclivities, and the valleys filled with snow or with glacier-ice; which latter often extend downwards to the coast, forming splendid and lofty icy cliffs, from 100 to 400 feet high. On the east coast are two large islands, viz. *Edge's Island and North-east Land.*

On approaching towards the west side of *Stansforeland,* on the east coast of *Edge's* Land or Island, between 77° and 78° north latitude, the lowest rock is a coarse *granular trap,* split by means of vertical rents into imperfect columns. This bed forms a flat extent of coast of about ten miles and a quarter broad, and forty-one miles long; and is the base or fundamental rock of an alternation of *fine granular sandstone,* an arenaceous *marl-slate,* compact *siliceous limestone,* and frequent repetitions of the trap-rock. Organic remains were not met with either in the sandstone or limestone by Professor Keilhau; but in some specimens collected at Cape Faneshaw, in that part of Spitzbergen named *New Friesland,* by the officers of Captain Parry's expedition, we noticed silicified *madrepores, retepores, orthoceratites, terebratulites,* and *cardites.* This same formation extends to north latitude 80°, and is conjectured by Keilhau to form the greater part of East Spitzbergen. It is true that some boulders of granite were met with; but these may have come from the great primitive chain of West Spitzbergen. Professor Keilhau found an interesting deposite of *shell-clay* in Stansforeland, in which the same kinds of fossil shells were found as in a similar clay on the southern coasts of Norway. This deposite extends onwards nine and a half miles from the shore, and

rises 100 feet above the present level of the sea. Bones of whales have been seen in the Thousand Isles, at a considerable height above the level of the sea, and probably imbedded in this *shell-clay*. Are we to infer, from the situation of this modern clay, that Spitzbergen has risen from the bottom of the sea at a comparatively recent period? Limestone, like that at Cape Faneshaw, occurs in the island named the *North-east Land*, on the east coast of Spitzbergen. The officers of Captain Parry's expedition also found granite there. The west and north coasts of Spitzbergen are composed principally of older rocks, viz. primitive and sometimes transition rocks. The primitive rocks of West Spitzbergen appear at the *South Cape*, in latitude 76½°. They are vertical strata of mica-slate, with numerous beds of quartz, ranging from north-east to south-west. In *Horn Sound* and *Bell Sound* these rocks form the high land; and to judge from the shape of the mountains, these or other primitive rocks ascend higher on the west coast. The primitive rocks near South Cape appear in part overlaid with the *shell-clay*. A new formation of red sandstone and gypsum occurs westward along the seacoast in fiords under the high chains, and also in small low islands which lie in front of the coast. In the year 1826 seahorse-fishers from Finmark brought *sixty tons of coal* from Ice Sound, in north latitude 78°, to Hammerfest in Norway; and we are informed by Scoresby, that the coal is so easily procured that many of the Dutch fishers, a few years ago, were in the habit of laying in a stock of this useful mineral, for fuel on the passage homeward. The coal of Spitzbergen, which extends beyond north latitude 79°, resembles in some places cannel coal; in others it is brown

oal or lignite. Scoresby, a little to the north of north atitude 79°, at Mitre Cape, observed the hills to be omposed of gneiss, mica-slate, and limestone,—and n King's Bay, a little to the south of this cliff, on he coast, natural arches of marble. On the north ast of Spitzbergen, in some points, as at Red Beach, econdary rocks of red sandstone, probably new red andstone, occur; but the prevailing rocks are of an lder date, being principally primitive, with less frequently rocks of the transition class. The primitive ocks mentioned in Parry's narrative are granite, neiss, mica-slate, hornblende-slate, primitive limetone or marble, quartz-rock, dolomite-marble, chlorite-slate, and clay-slate. In the mica-slate *precious arnets* were frequently met with. The transition ocks were principally clay-slate, quartz-rock, and imestone. In some points alluvial deposites were net with, and *brown coal* or lignite, either of new econdary, or of tertiary formation, was noticed.

Moffen Island, a small low island, lying on the orth side of Spitzbergen, in north latitude 80° 1′, ongitude 12° 43′ east, was visited by Mulgrave, who ays it had not been noticed by the older navigators. t may be of new formation, and, as Scoresby remarks, has probably been thrown up by the currents rom each side of Spitzbergen meeting. It is of a oundish form, about two miles in diameter, and as a shallow lake in the middle. The lake, when Scoresby saw it, was frozen over, except thirty or orty yards round the edge, and this near the end f July. The whole island is covered with gravel, nd without the least vegetation. *It is but a few eet above the level of the sea.* The only piece of drift-wood *found on it* by Mulgrave, which was *bout three fathoms long*, and as thick as the mizzen-

1830.				
SHIPS.	Tonnage.	Fish.	Oil. Tuns.	Bone. Tons. Cwt.
33, Hull	11,009	85	1261	68 1
2, Whitby	686	4	40	2 12
3, Newcastle	1103	12	195	16 3
1, Berwick	310	3	33	1 12
2, London	642	—	—	— —
4, Montrose	1302	3	30	1 12
13, Peterhead	3720	23	263	15 —
10, Aberdeen	3035	5	56	3 —
9, Dundee	3033	11	115	6 —
5, Kirkcaldy	1597	10	121	6 10
1, Burntisland	280	1	14	0 12
7, Leith	2427	4	52	2 14
1, Greenock	316	—	—	— —
91	29,460	161	2206	118 —

The year 1831 was, like the preceding, unfortunate, though not to an equal extent, nor with such instances of signal disaster. Most of the vessels sailed early in the season, and by the beginning of May had assembled on the south-west fishing-ground, along the coast of Labrador. Having been tolerably successful in this quarter in the former year, they employed a few weeks in fishing between Hudson's and Cumberland's Straits, while some proceeded to a still higher latitude; and by these exertions, fifty-nine whales were taken at this early period. This success did not divert them from making strenuous efforts, as soon as the weather appeared at all promising, to push to the northward, in order to reach the most advantageous stations. By the middle of June, the grand fleet was collected near Baffin's Islands, in about lat. 74°; but the captains, on ascending the highest peak, perceived with dismay that there was no prospect of a passage, there being an unbroken sheet of ice as far as the eye could reach. They

ome time in vain for an opening; when, in nning of July, about fifty sail moved south- hopes of getting across in lat. 71° or 72°, ad often previously been found practicable. ot prove so, however, in the present instance, y hastened back to the northern station; but s their mortification to find, that during their an opening had taken place, through which ther vessels had penetrated, and that the ice, again closed, presented an insuperable bar heir farther progress! The fleet then separat- two squadrons, and attempted at different force their way through; but they were over- y a tremendous gale, in which many of the ffered severely, and the Neptune of London lly wrecked. Thus baffled, they again sailed rd, and at length, about the end of August, a passage to the western coast. They could wever, retrieve the loss of so large a part of on, and returned with very deficient cargoes. hile the rest of the fleet made their way the ice, and reached in good time the fine estern station; though the hopes of a pros- ishing, which they thought themselves en- cherish, were in general disappointed.

e commencement of the season, some of the ad lighted upon good *patches*, and the Ulver- Leith took six whales in one day; but many ong and anxiously without being able to dis- single fish. The captains of two vessels (the and Andrew Marvel of Hull), having in- ns from their employers to proceed up Lancas- d, went as far as Prince Regent's Inlet; but countered heavy gales, and were entirely un-

mast of a ship, had been thrown over the seabeach, and lay near the lake. Captain Parry landed on several islands on the northern coast, viz. *Low Island*, about seven miles long, which appeared composed of transition quartz-rock; *Walden Isle*, on which were found primitive granites, quartz-rock, and gneiss; and *Ross' Islet*, a remarkable spot, the most northern known land of the globe, being situated in north latitude 80° 48½′, he found to be composed of *gray and reddish granite-gneiss, which is very coarse granular, occasionally porphyritic, with imbedded precious garnets; also, a flesh-red variety of the same rock.*

Remarks.—From the preceding details, it appears that Spitzbergen and its neighbouring isles afford rocks belonging to five of the great classes admitted by geologists,—namely, primitive, transition, secondary, tertiary (?), and alluvial. No true volcanic rocks are mentioned by authors. Ores are of rare occurrence, small portions of iron-pyrites and of clay ironstone being the only metalliferous minerals enumerated. The dolomite-marble of Hecla Cove, mentioned by Parry, agrees in colour, size of grain, and other characters, with the statuary marble of Italy. In these islands the precious garnet is met with. Its occurrence on Ross' Islet, and its known distribution in other countries, shows that the *precious garnet, of all the gems, has the widest geographical range, extending, in the northern hemisphere, from the equator to the high latitude* 80° 48½′ *north.*

Jan Mayen's Island.—This island, according to Scoresby, is situated between the latitudes of 70° 49′ and 71° 8′ 20″ north, and between the longitudes of 7° 26′ and 8° 44′ west. It is about ten

leagues long from north-east to south-west, and is in no place above three leagues in breadth. The peak of Beerenberg, the highest summit in the island, Scoresby found to be 6870 feet above the sea, consequently higher than any of the summits in Spitzbergen and Greenland. It was seen by Scoresby at the distance of 100 miles. The following account of the geognosy of the only part of the island hitherto examined is given by Scoresby; and we know it is correct, having in our possession the specimens collected during the excursion:—

"I left my ship," says Captain Scoresby, "at three quarters past one in the morning, accompanied by Captains Jackson and Bennet, whose ships were near at the time, and landed at half-past two, amidst a considerable surf, on a beach covered with a coarse black sand. This sand, which formed a very thick bed, covered over an extent of two or three miles and about a furlong in breadth. It was a mixture of *ironsand, augite,* and *olivine* or *chrysolite.* The black parts, which were very heavy, and readily attracted by the magnet, had an appearance exactly like gunpowder. After a few feet rise, forming a seabank of black sand, the strand proceeded inland on a horizontal line for about a fourth of a mile, where it was terminated by irregular cliffs. The strand appeared to have been occasionally covered with the sea, as it was strewed with drift-wood, part of which was tolerably good timber, and the rest bruised and a little worm-eaten. I had not advanced many paces before I observed signs of a volcano. Fragments of *compact* and *vesicular lava* were met with at every step; blocks of *burned clay were next* met with; and, nearer the cliff, *large masses of red clay,* partly baked, but still in a

friable state, occurred in great abundance. Numerous pointed rocks, probably of the trap formation, were projecting through the sand. One of these, which was *vesicular basalt*, had numerous grains and crystals of augite imbedded in it. Along with these was a rock nearly allied in appearance to the celebrated millstone or vesicular basalt of Andernach. After leaving the seashore, I perceived no other mineral but such as bore undoubted marks of recent volcanic action, viz. cinders, earthy slag, burnt clay, scoriæ, vesicular lava. The place from whence these substances appear to have been discharged being near, we attempted to reach it. In performing the ascent, the steepness of the hill and the looseness of the materials made the undertaking not a little arduous. We frequently slid backwards several paces by the pieces of lava giving way beneath our feet; in which case the ground generally resounded as if we had been travelling on empty metallic vessels or vaulted caverns. The baked clay, and other loose rocks, consisted chiefly of large masses at the bottom of the hill; but about the middle of the ascent these substances were in smaller fragments. Towards the top, blocks of half-baked red clay, containing many crystals of augite, were again met with; and about the southern part of the summit a rugged wall of the same sort occurred, giving the mountain a castellated form of no small magnificence. On reaching this summit, estimated at 1500 feet above the sea, we beheld a beautiful crater, forming a basin of 500 or 600 feet in depth, and 600 or 700 yards in diameter. It was of a circular form, and both the interior and the sides had a similar inclination. The bottom of the crater was filled with alluvial matter to such a

height that it presented a horizontal flat of an elliptical form, measuring 400 feet by 240. A subterranean cavern penetrated the side of the crater at the bottom, from whence a spring of water issued, which, after running a short distance towards the south, disappeared in the sand. From this eminence we had a most interesting prospect. Towards the north appeared Beerenberg, now first seen free from clouds, rising in great majesty into the region of perpetual frost. At the foot of the mount, on the south-east side, near a stupendous accumulation of lava, bearing the castellated form, was another crater of similar form to the one described above. Towards the south-west the utmost extent of the island was visible; while towards the north a thick fog obscured the prospect, which, as it advanced in stately grandeur towards us, gradually shrouded the distant scenery, until the nearer mountains were wrapped in impenetrable gloom. The sea at the same time was calm, the sun bright, and the atmosphere of half the hemisphere without a cloud. Excepting the interest excited by the volcano, Beerenberg sunk every other object into comparative insignificance. A rocky hill, with a precipitous side towards the sea, lying a little to the westward, I descended towards it from the ridge of the crater, with the expectation of finding some other kind of rock than what had yet been met with. It was found to consist only of a cliff of yellowish gray friable earth or clay, in which crystals of augite, along with black roundish granular pieces of basalt, lay imbedded. A piece of iron, which appeared to have been derived *from ironstone by* a smelting process conducted *in the furnace of* nature, was found near the

volcanic mount. Being very cumbrous, it was laid aside by our party as we ascended, and unfortunately left behind by us when we quitted the shore. The cliffs here afforded but few specimens of plants. Indeed, we travelled a considerable distance before we could perceive the least sign of vegetation; as we advanced, however, we met with tufts of plants in full flower, scattered widely among the volcanic rocks; but, under the last cliff we visited, the variety was greater and the specimens more vigorous. Among the plants we recognised rumex digynus, saxifraga tricuspidata, and oppositifolia, arenaria peploides, silene acaulis, draba verna, &c. We returned to the ships at six in the evening. A fishing-party which I sent out, proving unsuccessful in the offing, approached the shore about two miles to the eastward of the place we visited, where, though the surf was very considerable, and the strand very contracted, they effected a landing. They observed much drift-wood, a boat's oar, a ship's mast, and some other wrought wood, scattered along the shore. Every rock they noticed, and all the specimens they brought away, bore the same volcanic character as those I observed. Near some large fissures, which here and there occurred in the rocky and precipitous cliff, immense heaps of lava were seen, which appeared to have been poured out of these chinks in the rock. Cinders, earthy slag, ironsand, and fragments of trap-rocks, covered the beach and so much of the cliff as they had an opportunity of examining. The volcano discovered in this excursion I ventured to name Esk Mount, after the ship I commanded, and the bay where we landed Jameson's Bay, in remembrance of my friend Professor Jameson."

tain Scoresby farther remarks, that Esk
t appears to have been in action in the spring
following year; for, on the 29th of April
being off Jameson's Bay, he observed near to
Mount considerable jets of smoke discharged
rvals from the earth. The smoke was pro-
with great velocity, and seemed to rise to
the height of the land, or about 4000 feet.
n Gilyott, a Greenland fisher, also observed
me appearance, with this addition, that once
ticed a shining redness resembling the em-
f an immense fire. This fact serves to ac-
for some strange noises heard by the seven
seamen who attempted to winter here in the
633-4. In the beginning of the night of the
September, in particular, they "were fright-
y a noise as if something had fallen very heavy
ground; but saw nothing." This, instead of
the fall of an iceberg, as some have supposed,
obably a volcanic phenomenon.

Old Greenland.—This extensive land, which,
ing to some, is a continuation of the conti-
f America, while others view it as a group of
slands, extends from 59° 14′ to 72° 36′ north
le. The few details regarding its geology we
Giesecke, who spent many years on the west
—Scoresby, who explored the east coast,—and
in Ross, who sailed to the top of Baffin's Bay.

t Coast of Greenland.—This iron-bound
is barren, rugged, and mountainous; and
in the warmer seasons of the year but few
ls or vegetables assist in varying the mono-
and dreary scene. The average elevation of
ast *is about 3000* feet. Several mountains
ed by Scoresby on the Liverpool coast were

found to be 4000 feet; and Werner Mountains in Davy Sound were estimated, by the distance at which they were seen and the elevation they assumed above the ordinary mountains, to be 6000 feet. In the interesting account of the exploratory voyage of a late distinguished officer, Captain Clavering, published in the ninth volume of the New Edinburgh Philosophical Journal, it is stated, that on the coast to the northward of the part surveyed by Scoresby,—that, namely, examined by Captain Clavering,—the mountains are from 3000 to 4000 feet high. Scoresby's survey extended particularly from Cape Barclay and Knighton Bay, in about north latitude 69°, to Cape Parry in about north latitude 72° 30′; that of Captain Clavering from Cape Parry to an island under north latitude 76°: the coast downwards to Staaten Hook and Cape Farewell to about north latitude 59° 30′, is in part described by Crantz, but much of it is entirely unknown.

The tract examined by Scoresby appears to be principally of primitive rock. Secondary rocks also occur, but the transition are the least frequent. On the beaches, and at the head of friths, alluvial deposites were noticed.

The primitive rocks noticed were, granite, gneiss, mica-slate, hornblende-slate, syenite, and clay-slate. These rocks exhibit in that remote region the same varieties of structure as those on the west coast of Greenland, and these again do not differ from the primitive rocks of Britain and other countries; thus affording another proof of the uniformity of character, similarity of position, and universality of distribution of primitive rocks in all parts of the world. Judging from what is known of the imbedded minerals on the west coast of East Green-

land, and reflecting on the agreement of the rocks, both on the east and west sides of the country, we may infer that if Scoresby had had leisure for more minute investigation, his scientific zeal would have been rewarded by the discovery of the hitherto rare *cryolite*, the *sodalite*, and *allanite*, with magnificent *tourmalines* and *garnets*, interesting varieties of *zircon*, splendid specimens of *hypersthene*, the remarkable *dichroite*, and with all the species of the *felspar* genus. There does not appear any reason why the ores of iron, lead, tin, and copper of the west coast should not also occur in the same rocks upon the east; and the fine displays of *apatite*, *calcareous spar*, *fluor spar*, and of other simple minerals on the west coast, which have been a source of so much instruction and delightful contemplation to the scientific observer, may in some future voyage present themselves in the newly-discovered countries to the eye and the intelligence of the naturalist. The specimens of *transition clay-slate* picked up by Scoresby, prove the existence of rocks of that class in Greenland, and thus add a new feature to its geognosy; for Giesecke does not enumerate any of the slates he met with as belonging to the transition class. This fact is also a farther proof of the wide distribution of these rocks; and shows, in opposition to certain speculative views, that they are not confined to a few narrow corners of the globe, but, like granite, gneiss, &c., may be considered as occurring in most extensive tracts of country, and that, therefore, the series is to be associated with the universal formations. We do not know any other examples of *transition rocks having* been found in so high a latitude. *The secondary rocks* met with are refer-

able to two formations, one aqueous or Neptunian, the other Plutonic or igneous; the Neptunian rocks belong to the *first secondary sandstone*, or *coal formation*,—the other to the *secondary trap and porphyry series*. This coal formation does not occur on the west coast, and was met with for the first time in Greenland by Scoresby. It is the same formation as that which abounds all around Edinburgh; in short, it is that important deposite in which are situated all the great coal-mines in Scotland and England. It was met with only in *Jameson's Land*, where it forms the principal deposite, and gives to that country its peculiar characters; thus affording another example of the connexion of the general and particular forms of the surface of a country with its geognostical structure and composition. This formation always contains impressions and casts of plants which have a tropical aspect,—a circumstance of high interest when combined with the Arctic situation of the coal. The coal formation in Melville Island, in north latitude 75°, where the summer lasts but a few weeks, I found, on examining a series of specimens, to contain various tropical-looking fossil plants, resembling those met with in the coal-fields of Britain; and as the same formation occurs in Jameson's Land, in north latitude 71°, it is very probable that future naturalists will detect, in its strata, plants of a similar nature. Remains of plants with tropical characters, evidently in their native place of growth, under the 75° north latitude, is a fact which naturally leads to very interesting discussions in regard to the ancient forms of the land, the former state of the climate, and consequently to the early condition of the animal and vegetable kingdoms of Arctic lands. The coal for-

mation of Jameson's Land, at *Neill's Cliffs*, exhibits a splendid display of secondary trap-cliffs, as is so often the case in the middle division of Scotland.

The secondary trap-rocks,—all of which are more or less of an igneous origin, and the consideration of which is so importantly connected with the position of the neighbouring strata, the form of the surface, and the elevation of that surface above the waters of the ocean,—occur at Traill Island, forming, apparently, nearly its whole mass. These rocks are principally greenstone, and claystone, and felspar porphyries.

Neither Captain Clavering, nor Captain Sabine, who accompanied him, appear to have bestowed any attention on the geology of the country surveyed from Cape Parry to north latitude 76°, the most northern land of Greenland seen by Clavering, as all we obtain from their reports is simply, that the land was mountainous, from 3000 to 4000 feet high, and principally composed of trap-rocks.

West Coast of Greenland.—The west coast of this forlorn region is equally mountainous, rugged, and desolate as the east. The country, even when but inconsiderably elevated above the sea, is covered with snow, or encased in ice. In the warm season of the year, *rivers* appear, but few in number and of inconsiderable size, which are supplied by the melting of the snow and ice. The same also is the case with the *lakes*, which in some parts are of considerable size. *Springs* then also burst forth, but in winter the greater number cease. Giesecke mentions a tidal spring, which rises and falls with the tide; and a *hot spring*, which neither cold nor storm interrupts, flows all the year round with a temperature of 104° of Fahrenheit. This hot spring occurs in the south-east of the coast, in the island

of Ounartok, in north latitude 60°, and is highly interesting, as showing that that igneous agency, which was formerly exerted so extensivly in this country, is still at work beneath the surface.*

The large islands that skirt this coast, of which the most considerable is *Disco*, are, like the continent, composed of barren rocks, and of valleys filled with eternal ice; while the smaller islands are formed of roundish elevations and hills, the base of which are inhabited by numberless sea-fowl.

The little we know of the geology has been obtained by examining the seacoast, or tracts removed but a short distance from it,—the interior and higher parts of the country being inaccessible, owing to the deep and constant cover of ice and snow.

Four classes of rocks occur, viz. primitive, secondary, tertiary, and alluvial. The *primitive Neptunian rocks* are, some granites, gneiss, mica-slate, whitestone, clay-slate, greenstone, and limestone; the *primitive igneous rocks* are, granite and porphyry. These rocks exhibit the usual relations, the gneiss appearing as the under or fundamental rock, supporting the whitestone, mica-slate, and clay-slate, with their limestones and greenstones; while certain granites, syenite, and porphyry, rise through the older or Neptunian rocks. In these rocks various beautiful and curious simple minerals occur, namely, *cryolite, allanite, sodalite, thulite;* also numerous *precious garnets, rock-crystal, rose-quartz, dichroite, hyperstene, apatite* or phosphate of lime, *zircon, fluor-spar, calc-spar, gold-like mica, mag-*

* The experiments of Cordier, related in the New Edinburgh Philosophical Journal, with the numerous details in regard to the temperature of springs and mines, go to support the idea, not of a *central heat*, but of a source of heat independent of that derived from the sun, situated in the crust of the earth.

netic iron-ore, gadolonite, tinstone, wolfram, arsenical and *iron-pyrites, galena* or leadglance, *titanium*, &c. &c. Indurated talc and potstone are also met with. Of these lamps and kettles are made. Utensils made of these minerals are carried to some districts where they are not found, and are bartered for provisions, furs, &c. The Greenlanders, says Crantz, sometimes give them as presents to persons of distinction in Denmark, where they are highly valued, as it is thought that articles of food prepared in them are more delicate than when done in metallic vessels. It may here also be noticed that the gold-like variety of mica was at one time taken for gold; and it is stated by Egede, that its appearance was so seducing that two successive expeditions were sent from Denmark in the early part of the 17th century, in 1636, for cargoes of it, in the expectation of finding gold. Not discouraged by the first failure, a second ship was laden with it, which, after the most careful analysis, was found worthless.

The *secondary* and *tertiary rocks*, at present known to occur in this coast, are secondary or tertiary traps, or both, with slate-clay, limestone containing fishes, and limestone containing imbedded *amber*. These limestones and slate contain, or are associated with, beds of brown coal or lignite; in some kinds of brown coal *amber* also occurs. These newer trap-rocks,—the amygdaloidal,—varieties of which contain agate, jasper, calcedony, and green earth, have been traced from north latitude 69° 14′ to the top of Baffin's Bay, the farthest northern point reached by Captain Ross.* A splendid display of these rocks is presented in the large island

* *Considerable masses of meteoric iron* were found by Captain *Ross, at Sowallock Point*, in north latitude 76° 2′.

named *Disco*, which is entirely formed of them. The *alluvial* depositions, which are of sand, gravel, clay, and rolled masses, occur on the seashore, or on the sides of the fiords; but they are not mentioned as appearing any where in great quantity. Peat, which is to be considered an alluvial formation, is met with in fenny places, interspersed with roots, branches, decayed wood, and withered grass. Much of the peat contains sea-shells, from which it is suspected that the sea washed over it at some distant period. No *wood grows;* but *drift-wood* is frequently obtained on the seacoasts, particularly on the southern and western parts.

4. *Barrow's Strait, Melville Island, Port Bowen.*—All that is known of the geology of these Arctic lands we owe to the Parry expeditions in 1819, 1820, and in 1821-2-3.

The east side of Baffin's Bay, or west coast of Greenland, as already mentioned, is composed principally of primitive and secondary rocks. On the west side of Baffin's Bay to the entrance of Lancaster Sound, the predominating rocks were found to be primitive, viz. gneiss, mica-slate, and granite. In the latitude of the entrance of Lancaster Sound, in Possession Bay, the rocks are granite, succeeded by hornblende-rock, with disseminated precious garnets, and rocks of new red sandstone, with gypsum and granular gypsum. The north coast of Barrow's Strait, as far westward as the Polar Sea, is said to consist of limestone resembling mountain limestone. Both sides of Prince Regent's Inlet are formed of a compact limestone, which contains fibrous brown iron-ore and a kind of brown coal. Its colours are ash-gray, yellowish-gray, and yellowish-brown. It affords about 20 per cent

arbonate of magnesia, and is therefore a magnesian limestone. It contains imbedded masses of *hert-quartz.* The organic remains found in it were *entrochites, catinularia, speropore, turbinoiæ, favosites,* several species of *terebratulæ,* a *trochus,* a *turritella,* and an *orthoceratite.* This has been called *Port Bowen limestone;* its age has not been determined. Resting upon it there are thick beds of gypsum, containing selenitic, fibrous, and foliated varieties, which are connected with a slaty limestone, which is newer than the Port Bowen limestone. Byam Martin's Island appears to be composed of granite and red-coloured quartz-rock. A fossil dicotyledonous tree was found on the shore of this island. Melville Island is the most western point ever navigated in the Polar Sea from the eastern entrance. It lies in north latitude 74° 26′, and west longitude 113° 46′. Its length is one hundred and thirty-five miles from east-north-east to south-south-west; its breadth forty or fifty miles. Granite, gneiss, and syenite were found in the vicinity of Winter Harbour; but the principal formations in the island, as far as the specimens brought allowed us to infer, appear to be *transition glance-coal,* and the *first, or oldest secondary coal formations.* The rocks of these formations observed here were the following:—White quartz-rock, sometimes micaceous, containing impressions of *trilobites,* belonging to the genus *asaphus;* sandstone, containing *trochi,* or joints of the stem of the *encrinus;*—but the most frequent fossils in the sandstone were vegetable casts and impressions of species in some measure characteristic of the coal-sandstone, particularly *arborescent ferns,* resembling those which at present occur only in the tropical

regions of the earth. *Slate-clay* and *clay-ironstone* were also found associated with the coal-sandstone; one specimen of ironstone was found to contain a fossil *avicula*, named, by König, *Melvilliana*, in honour of Lord Melville. The secondary *coal* is more or less of a slaty structure: its colour is of a brownish-black. It emits no unpleasant smell when burning, and leaves copious grayish-white-coloured ashes. It is quite a different coal from the brown coal of Disco, which contains amber. It would appear that the trilobite, or glancecoal, is connected with quartz-rock, while the secondary coal rests upon a limestone resembling the mountain limestone, containing bivalve shells and corallines, a species of terebratula, and the *Favosites Gothlandicus*. These deposites appear to be traversed by whin-dykes or trap-veins.

5. *Islands and Countries bordering on Hudson's Bay examined and partly discovered by Captain Parry.*—The lands bordering on Hudson's Bay, and the islands mentioned by Captain Parry, viz. Melville Peninsula, Vansittart Island, Baffin Island, Winter Island, Cockburn Island, Southampton Island, &c., are not very much elevated above the level of the sea,—the average height is 800 feet, and the highest summits not exceeding 1500 feet. The valleys are narrow and rugged, and the cliffs sometimes display mural precipices of more than 100 feet high. The country is covered with ice and snow the greater part of the year, often exhibiting the most splendid colours and iridescences, and forms of the most picturesque description. The upper soil varies from a few inches to a foot in depth, beneath which the ground is frozen solid throughout the whole year. The rocks of which

this country is composed vary in their nature; in some places primitive rocks predominating, in others those of the transition, or of the secondary classes; no tertiary rocks were met with, nor formations either of the ancient or modern volcanic periods. The primitive rocks enumerated and described are the following:—*Granite*, gneiss, mica-slate, clay-slate, chlorite-slate, primitive trap, serpentine, limestone, and porphyry. In these rocks several interesting minerals occur, as the gems named *zircon* and *beryl*, also *precious garnet, actynolite, tremolite, diallage, coccolite, rock-crystal, calc-spar, rhomb-spar, asbestus, graphite* or black-lead, *specular iron-ore, magnetic iron-ore, chrome-ore*, or *chromate of iron, titanitic iron, common and magnetic iron-pyrites*. The transition rocks are quartz-rock, old red sandstone, or red graywacke, common graywacke, and flinty slate. In them the following minerals were found, viz. *felspar, mica, chlorite, pale rose-quartz, epidote, rock-crystal, shorl, molybdena, ironglance, magnetic iron-ore, copper-pyrites, and iron-pyrites*.

Of the secondary rocks, the only kinds met with were limestone, bituminous shale, and greenstone. No fossil organic remains were detected in any of the rocks of this series but the limestone, which afforded two genera of corals, viz. *caryophyllea and astrea;* one crustaceous animal of the trilobite genus; a *productus*, a *terebratula*, and species of the genera *nautilus, trochus*, and *orthocœras*. No extensive deposites of alluvial matters were met with. The most striking objects are the rolled masses or boulders, spread over some of the islands. Some islands, *entirely composed* of limestone, were strewed *over with boulders*, often of enormous size, of

gneiss, granite, and quartz, although no hills of these rocks were within some hundred miles.

CONCLUDING REMARKS.

THE observations made in Cherie Island, Jan Mayen's Island, Spitzbergen, Old Greenland, and the various lands and islands first explored during the four Arctic expeditions, viz. that under Captain Ross, and the three under Captain Parry, afford the following general facts and inferences:—

1. That these miserable and almost uninhabited regions abound in primitive and transition rocks, and that although secondary rocks occupy considerable tracts, still, as far as is known at present, their extent is more limited than that of the older formations; that the alluvial deposites are not extensive; that true modern volcanic rocks occur only in Jan Mayen's Island; and that the only traces of tertiary strata were found in the sandstones, clays, and limestones, connected with the new trap-rocks in Baffin's Bay.

2. That the Neptunian, primitive, and transition rocks, now forming islands of various magnitudes, were in all probability at one time connected together, and formed a more continuous mass of land than at present; and that on these formations were deposited the secondary limestones, sandstones, gypsum, and coal, and upon these again the tertiary rocks, and the still newer *shell-clay* of Spitzbergen: That these various kinds of primary, transition, secondary, and tertiary rocks, and alluvial clays, were raised above the level of the sea at different times through the agency of the igneous and volcanic rocks.

3. That in the course of time the land was broken up,—either suddenly or by degrees, or partly by

sudden and violent action, and partly by the long-continued agency of the atmosphere and the ocean,—into its present insular form; and that, consequently, the secondary and tertiary formations in these regions were formerly more extensively distributed than at present.

4. That previously to the deposition of the coal formation, as in Melville Island and in Jameson's Land, the previously-existing, or older hills, supported a vegetation resembling that which at present characterizes the tropical regions. The fossil corals in the limestones,—corals of which the prototypes are at present met with in the hot seas of the tropical regions,—also intimate that, before, during, and after the deposition of the coal formation, the waters of the Arctic Ocean were so constituted as to support polyparia, or corals, resembling those of the present equatorial seas.

5. That probably the ancient climates of the Arctic regions were connected in some degree with the former magnitude and form of the Arctic lands, and their relations to the magnitude and height of other countries.

6. That the boulders or rolled blocks met with in different quarters, and in tracts distant from their original localities, afford evidence of the passage of water across them, and at a period subsequent to the deposition of the newest Neptunian strata.

7. That possibly the distribution of the erratic blocks or boulders was occasioned by the agitations in the ocean, caused by the upraising of certain lands.

8. That the black or common coal, the coal of the old or most abundant coal formation, which some speculators *maintain to* be confined to the more temperate and warmer regions of the earth, is now proved

—by its discovery by Parry in Melville Island far to the west, and by Scoresby far to the east in Jameson's Land,—to form an interesting feature in the geognostical constitution of Arctic countries.

9. That the new red sandstone and gypsum found in tracts allow us to infer that they contain *rock-salt*.

10. That although few new metalliferous specimens have been found to gratify the curiosity of the mineralogist, yet the previous details show that valuable ores of iron, copper, lead, and tin, and also graphite, or black-lead, are met with.

11. That the gems, the most valued and most beautiful of mineral substances, are not wanting in the Arctic regions, as is proved by the occurrence there of precious garnets, beryls, zircons, dichroites, and rock-crystals.

12. That the islands and lands described in the sketch exhibit the same general geognostical arrangements as occur in all other extensive tracts of country hitherto examined by the naturalist,—a fact which strengthens that opinion which maintains that the *grand features* of nature in the mineral kingdom are every where similar, and, consequently, that the same general agencies must have prevailed during the formation of the different groups of rocks of which the earth is composed.

THE END.

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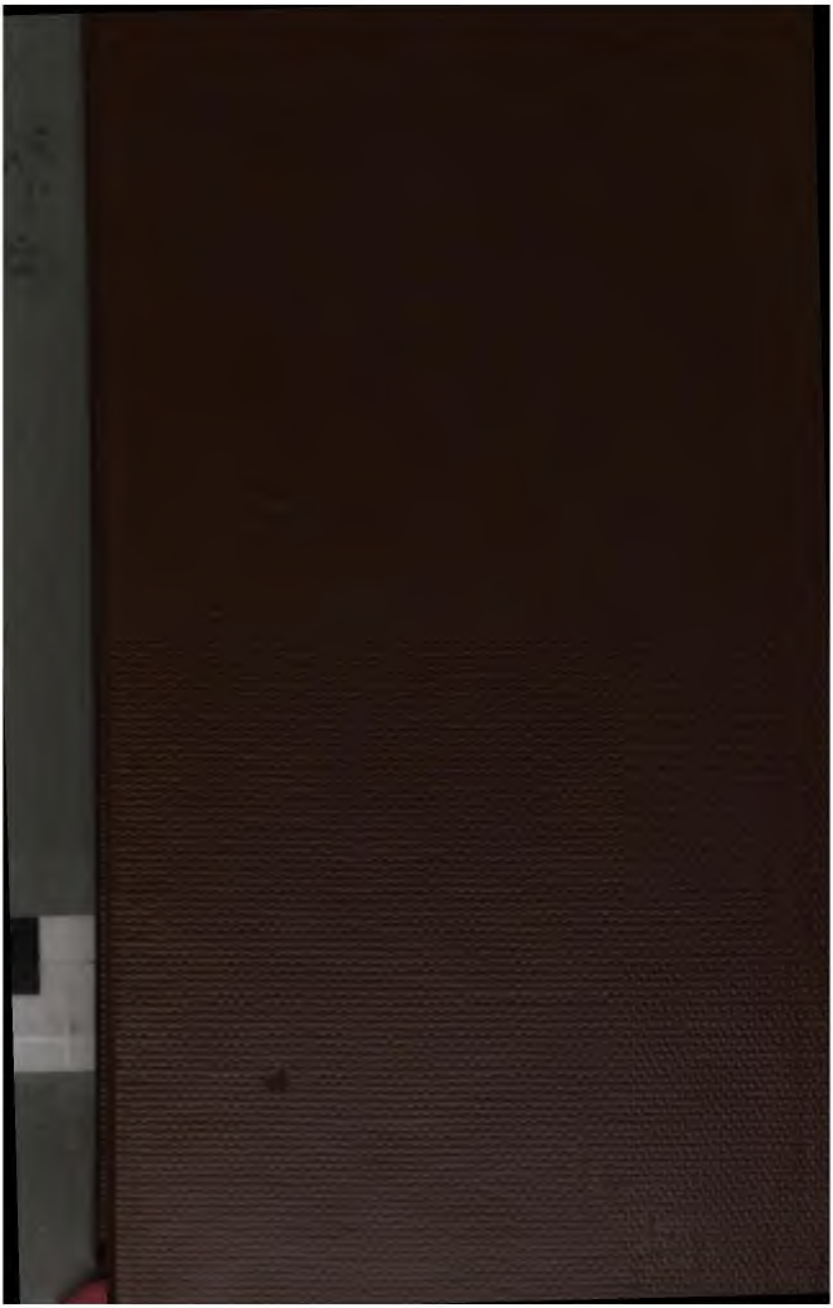
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